

# American Artisan

Founded 1880

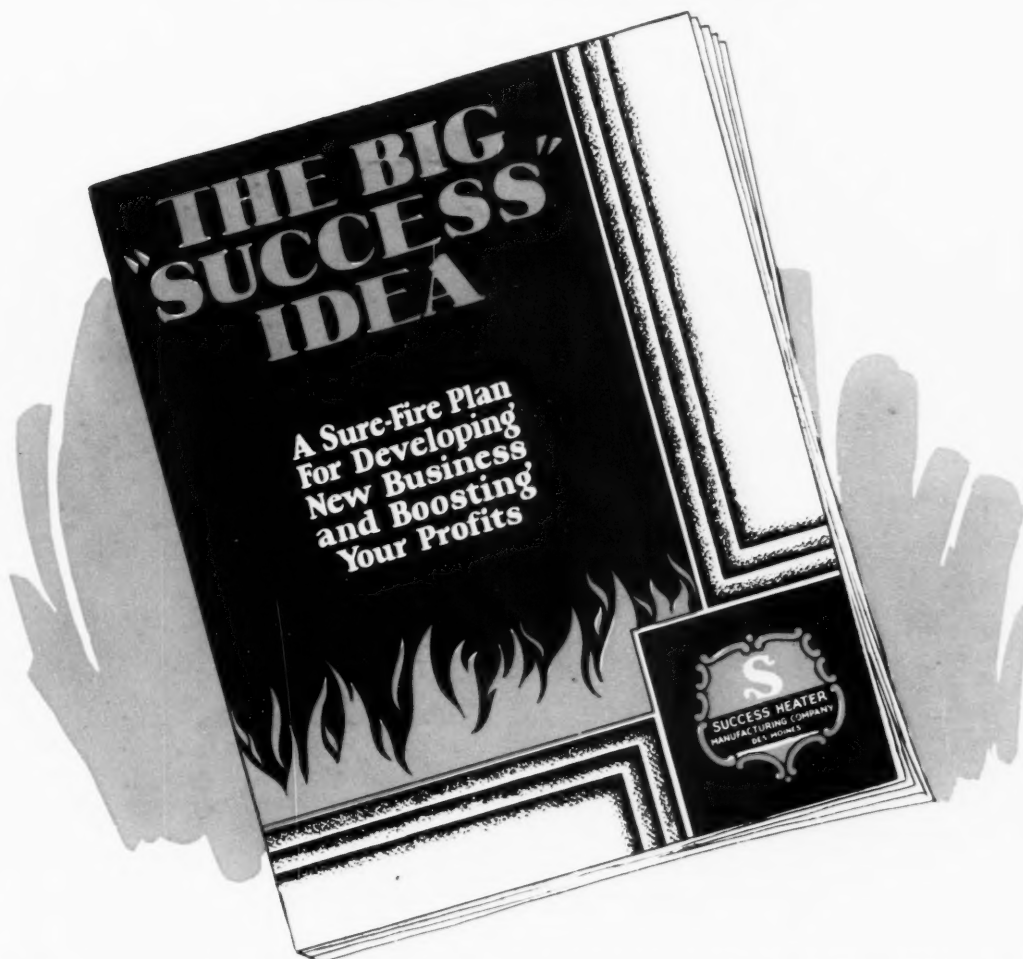
The Warm Air Heating and Sheet Metal Journal

Vol. 97, No. 9

CHICAGO, MARCH 2, 1929

\$2.00 Per Year

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Published Weekly by American Artisan and Hardware Record, Inc., 620 South Michigan Avenue, Chicago Illinois. AMERICAN ARTISAN—the Warm Air Heating and Sheet Metal Journal—entered as second class matter, March 26, 1928, at the Post Office at Chicago, Illinois, under act of March 3, 1879. Formerly entered on June 25, 1887, as American Artisan and Hardware Record.



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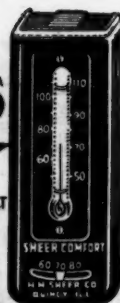
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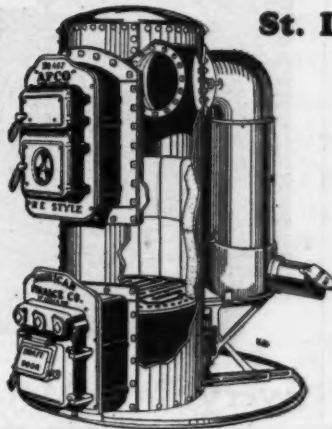
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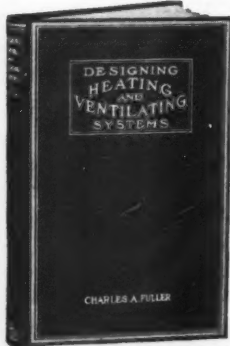
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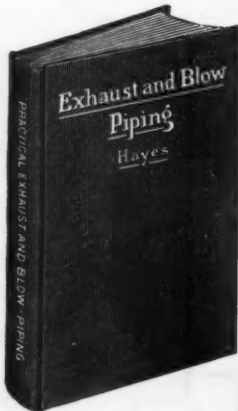
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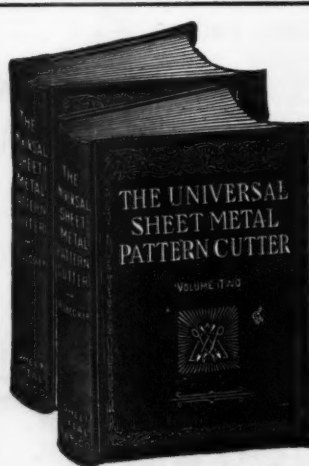
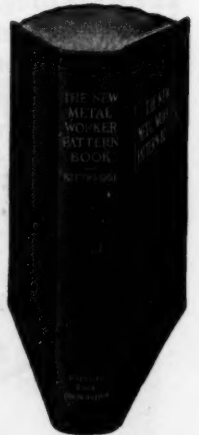
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## Every Sheet Metal worker should own this 2 Volume Encyclopedia of Sheet Metal Working

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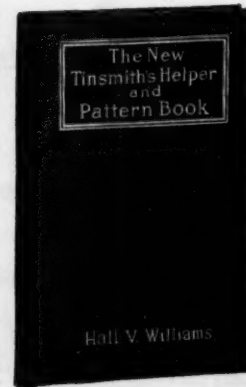
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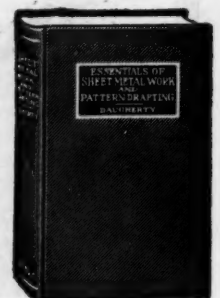
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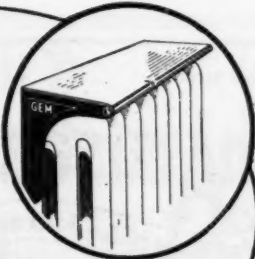
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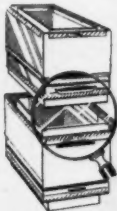


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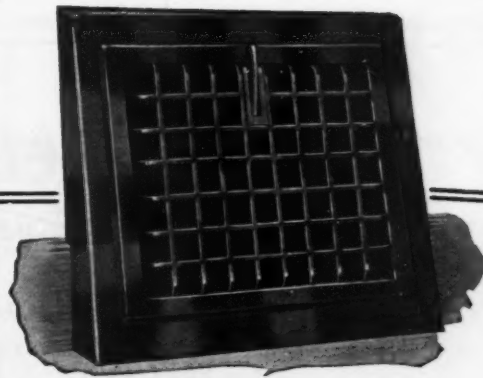
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Founded 1880

Published to Promote  
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and  
Sheet Metal Work

# American Artisan

The Warm Air Heating and Sheet Metal Journal

Yearly Subscription  
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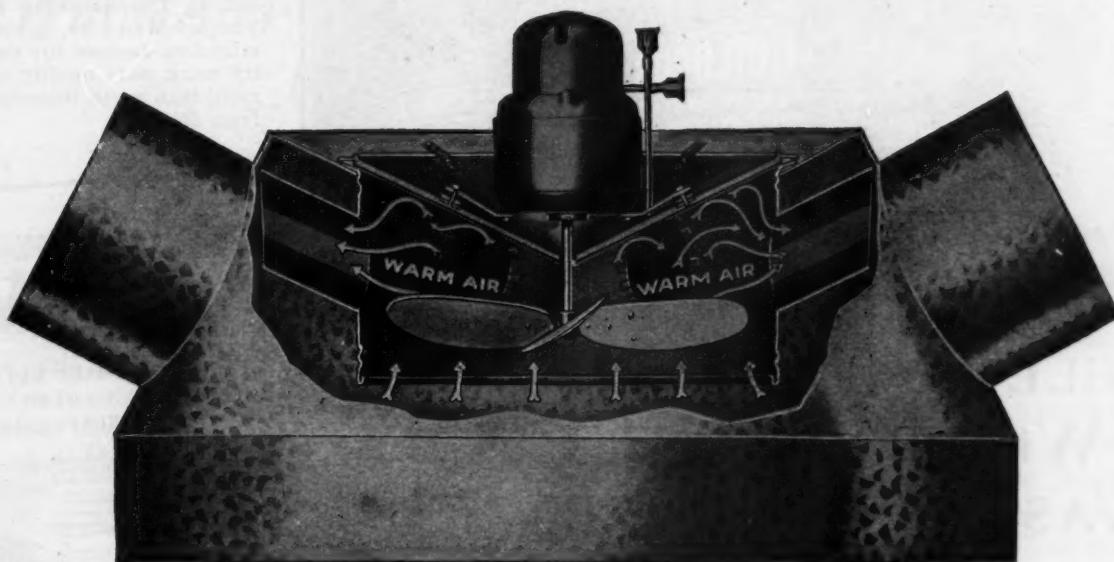
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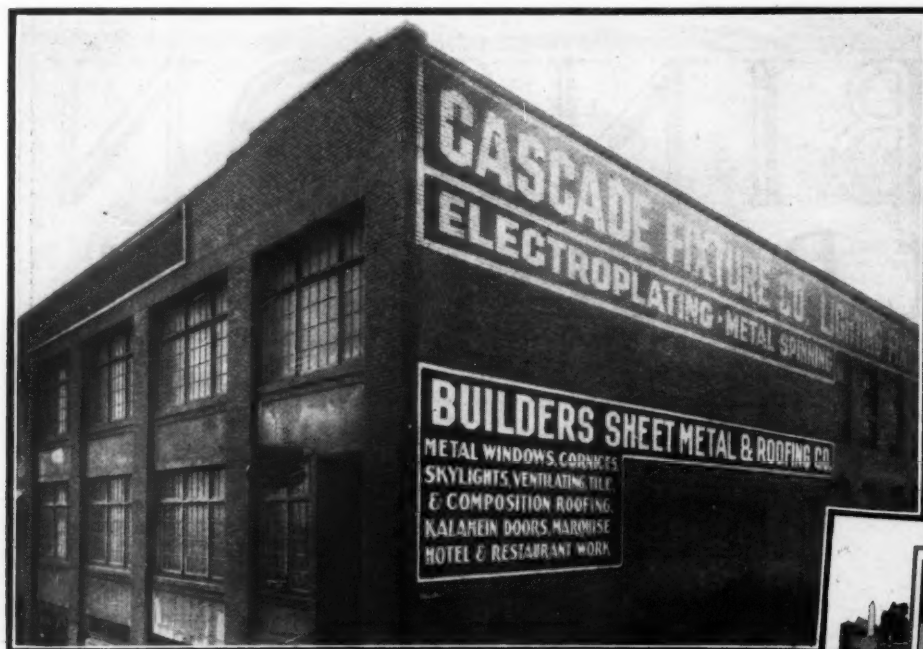
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This advertisement, which will be seen by three million readers of The Saturday Evening Post of March 16, is certain to stimulate demand for the "quality work with quality iron" of more than seven thousand Ingot Iron Shops.

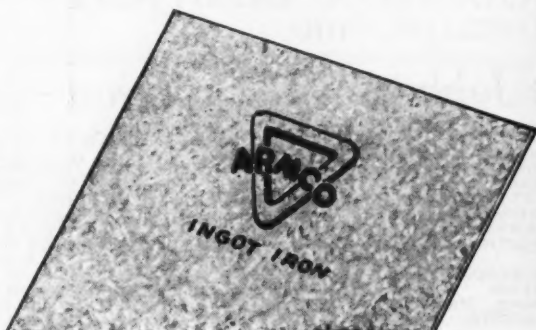
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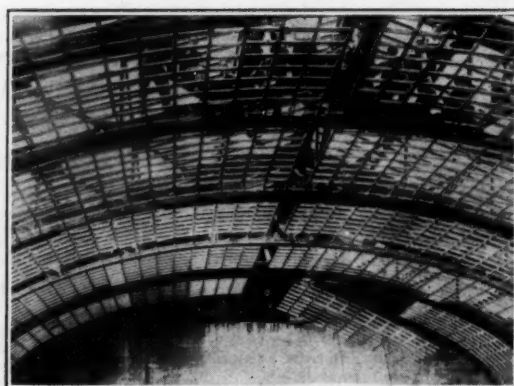
The other is *public acceptance*—the sheet metal users everywhere who have experienced, read of, or been told by satisfied owners, the savings that go with "the purest iron made."

These, together with sales aids — booklets, blotters, letterheads, job cards, and other business-developers — help you sell two jobs where but one was sold before . . . If you have an Ingot Iron Shop.

Ask any of our salesmen to tell you about the many advantages that accompany an Ingot Iron Shop franchise. Or, write us direct.



Here is the crew of the Spencer Sheet Metal Works installing ARMCO Ingot Iron skylight frames and dome roofing in the Utah State Capitol Building, back in 1916. There have been no repairs or replacements in the intervening years. ARMCO Ingot Iron lasts and saves for its owners.



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*When writing mention AMERICAN ARTISAN—Thank you!*





# American Artisan

The Warm Air Heating and Sheet Metal Journal



Vol. 97

CHICAGO, MARCH 2, 1929

No. 9

## Is a Warm Air Furnace Salesman Helped or Handicapped by a Drawing Account?

*Should the Furnace Manufacturer Shoulder the Salesman's Economic Responsibility?*

By GEORGE DUERR

**A** QUESTION which has puzzled warm air furnace manufacturers and furnace installers alike is how best to reimburse salesmen in order to encourage them to produce desirable business in as large volume as possible. I say desirable business, because, of course, everyone knows that any other kind of business entails more grief for the manufacturer or the furnace installer himself than it is worth. There is perhaps no furnace manufacturer or installer who has not tried at least three or four methods of compensating salesmen, and with varying results.

### What Would You Think of This?

While sitting in a hotel lobby recently during one of the sheet metal conventions, I overheard a conversation between a manufacturer (not sheet metal or furnace) and a salesman. The manufacturer was endeavoring to hire the salesman on a straight commission basis. The salesman, of course, having always worked on a drawing account, it was very apparent, was dumbfounded at the audacity of the manufacturer's attempt to get the salesman to take the line out without bearing any of the expense.

The salesman, it developed, had left his last position because, as he explained it, the sales manager over him had increased his quota for the year from \$75,000 to \$150,000, but had neglected to increase the salesman's drawing account in propor-

tion. This the salesman thought was an injustice which he could not brook.

Now, here was a man who was trying to hire the salesman on a

*This article has been designed in an attempt to answer the question of whether a salesman selling warm air furnaces, either to dealers or for dealers, should be placed upon a straight commission or a drawing account and salary basis, in order to develop his greatest initiative and sales ability.*

*Will the salesman respond more readily if he is assured before he starts out that his economic responsibility is taken care of than if he is left entirely to his own devices?*

*We would like to have the opinion of some of the salesmen themselves on this question, and also the experience of warm air furnace installers in handling retail salesmen. Let us have your honest opinion, whether you agree with us or not. You need not sign your names if you do not wish to.*

straight commission basis, with no drawing account at all, and with the added infringement upon the salesman's rights of establishing his sales quota for the year at \$200,000. The plain nerve of this manufacturer had all but left the salesman breathless. He was stunned,

non-plussed and stopped. And, of course, considered the interview at an end.

### Manufacturer Thinks Salesman Lacks Vision

The manufacturer, however, had decided that he had before him a salesman who did not even know his own productive capacity. This manufacturer had diagnosed the case as one where the salesman was not lacking in ability to sell, but was hamstrung with the idea of the necessity for a drawing account. The idea of his going out to sell \$200,000 worth of goods in a year alone and unaided by a drawing account gave him the feeling of a man who had never learned to swim who was suddenly dumped out of a boat a long way from shore. The idea was entirely beyond his comprehension for the moment. It was something so entirely foreign to his previous experience that the thought just did not occur to him that a salesman could possibly take a job on that kind of a basis and keep himself from starving to death.

"But my family," stammered the salesman. "How am I going to keep them from starving to death while I'm out trying to sell your products?"

Very quietly the manufacturer said to him: "Is your economic problem my problem? I'm offering you an opportunity to get into the big money-making class and because you lack vision, initiative and the courage to test your own ability

really to sell merchandise you want to turn my proposition down. And the only reason why these characteristics have not been developed to their full power in you is that you have allowed yourself to become handicapped by a drawing account. You have an economic problem to meet, of course, but all my salesmen have that. The only difference between you and them is that I have so trained them that they see beyond that, and most of them have permitted their real sales ability to discharge that responsibility in a very satisfactory manner. In a word, it has become a mere incident to them."

But the salesman was game. He rose to the occasion. He talked in a vein which convinced me that he would finally accept the manufacturer's proposition.

#### **What Is Average Salesman's Slant on His Job?**

Here was an entirely different slant on salesmanship. It was an insight into how the really big salesmen sell. It certainly gave me something to think about and to ruminate on. The more I thought of it, the more I wondered whether warm air furnace salesmen are not so close to their drawing accounts that they find themselves hamstrung by the latter. Then I thought that perhaps they had tried it and found it did not work out in the warm air heating field. You know every field has its own peculiarities which make it necessary to adopt certain methods and practices. But I wondered how much of that was actual necessity and how much alibi. It was then that the thought occurred to me to go straight to the manufacturers and ask them point blank what their experience had been. All those to whom I wrote replied, some of them with the reservation that their names be omitted in the event of publication of the material.

#### **Manufacturers' Views Differ Widely**

First I'm going to let you learn how E. C. "Buck" Taylor, vice-president of the Premier Warm Air Heater Company, Dowagiac, Michigan, views this question. Buck, you

know, has some pretty well-crystallized ideas on this subject, and what he says packs a good kick.

"We have tried salesmen on a commission basis, on a drawing account and also on salary and expenses, and we have gone back to the salary and expense method of handling things, with a bonus over and above certain figures.

"In our line of work, where we are constantly interested in the welfare of our dealers, we feel that it is necessary for us to be in a position to dictate where the traveler's time shall be spent and how—and that is best accomplished on a salary arrangement."

#### **Harvey Manny Sees Financing Big Problem to Salesman**

J. Harvey Manny, vice-president of the Robinson Furnace Company, Chicago, has also had a great deal of valuable experience with the hiring and directing of salesmen, but his views on the subject differ somewhat from those of Mr. Taylor.

"We are absolutely of the opinion," says Harvey in his letter, "that if it were possible to employ straight commission salesmen, with no drawing accounts, that these men would certainly produce better results than either salaried men or salesmen on commission with drawing accounts. Unfortunately, however, in the furnace business we have been able to find but very few salesmen who can finance themselves. A salesman starting out the first of January would not be able to make enough shipments during the first two or three months and draw enough commissions to meet his traveling and living expenses, and it is, therefore, necessary to give most salesmen a drawing account for at least the first six months.

"The first requisite of the good salesman is confidence in himself, his own ability, and the line he is selling. Any good salesman who is able to finance himself is willing to take the line out on straight commission. There are many such salesmen in the furnace industry, no doubt, but unfortunately most of

these men are not in a position to finance themselves for the first few months of the year.

"We believe the furnace manufacturer has been somewhat at fault in this matter. The income the average furnace salesman in our industry is able to make is not consistent with the specialty line of selling he has to do, with the result that the higher type of specialty salesman is not attracted to the selling of warm air furnaces."

#### **G. E. Robinson Favors Drawing Account**

G. E. Robinson, sales manager of the A. H. Robinson Company, Massillon, Ohio, gives us the benefit of his valuable fund of knowledge on this subject. His ideas seem to coincide more with Buck's than with Harvey's, but here's what he says:

"The writer believes that the salesmen who work under a drawing account and commission arrangement produce more business than those who work on a straight commission basis without a drawing account.

"A man with a drawing account feels under some obligation to his company; that is, he feels that he must produce at least enough business to warrant the company continuing to pay his drawing account. The man who receives only what he earns feels that his time is his own and that he, therefore, need only work when he chooses.

"We can also insist upon the man to whom we are paying a drawing account sending in reports at definite, stated intervals and on the things which we want to know about, while it is almost impossible to get a report from the straight commission salesman."

#### **D. E. Cummings Favors Drawing Account**

D. E. Cummings, manager of the Western Division, Richardson & Boynton Company, offers the following suggestion on the subject:

"The writer personally is sold on the following basis: A reasonable drawing account and commission beyond an established quota.

"We believe the arrangement works out in a more satisfactory



manner than either regular commission or straight salary contract.

"We certainly will enjoy receiving definite information covering all of the reports you assemble from the various sales managers, as we are very much interested."

On the next three letters, I am sorry to say, the writers have asked that their names be omitted, but they are all men who have had much experience in training and directing salesmen.

#### **Salesman's Economic Problem Must Be Considered**

The first of these says: "We travel all of our salesmen on the drawing account basis and then pay them a bonus on sales over a certain amount. This arrangement we have found the most satisfactory, as it relieves the salesman of worry about his own economic problems, and the bonus arrangement is an incentive for him to work hard for volume."

The second writer says: "We, like all others, have tried almost every conceivable method for determining equitable compensation.

"Our present plan has been in force for about two years and seems to be more satisfactory than any other we have tried.

"We feel, on account of the furnace business being rather seasonable, that a salesman must of necessity receive a drawing account. It should be slightly less than the amount he will actually earn on the year's business based on a definite commission on all sales from his territory, either direct or indirect. In other words, taking a man who will sell \$50,000 worth of goods, his drawing account would be \$200 per month, or \$2,400 for the year. With expenses amounting to \$160 a month, or a total of \$1,920, he would cost the company \$4,320 for the year. On a 10 per cent basis, his commissions would amount to \$5,000, from which would be deducted \$4,320, giving him a bonus at the end of the year of \$680.

"We feel that on this basis a man will do his utmost to earn the bonus, as his drawing account is just enough to get by with and the

extra money is worth the extra effort. Coming as it does in a lump sum, it is of much more use to him than were he to draw his commissions up to the limit each month.

"It has been my observation that drawing accounts of \$100 a month, while possible in small towns, are not possible in larger cities. A salesman becomes discouraged during the spring months of the year and as a rule leaves the industry. As far as I know, salaries in the furnace industry are based on the gross volume of sales and are determined by previous year's performance."

The next man to answer unfortunately enjoined me from publishing his letter, which grieved me very much indeed, because he has thrown an entirely new light on the whole subject. He speaks of the salesmen working near the plant having an advantage over those at distant points. Of the difference between the problems of the salesman working for an old established house and the new company just entering the field. And of the laxity on the part of the sales managers with which the salesmen must contend.

Well, that's one side of one phase of the salesmanship problem in the warm air heating industry. I would like to hear what the salesmen themselves have to say about it and what the warm air furnace installers think.

#### **Milwaukee Sheet Metal Contractors Consider Paid Secretary at Monthly Meeting**

The Master Sheet Metal Contractors Association of Milwaukee held its February meeting as customary.

Meeting was called to order at 8:00 p. m. with President Bogenberger in the chair and 13 members present. Minutes of the January meeting were read and approved.

The chairman then appointed a committee consisting of himself to function on the "Construction Industries Committee" of the Milwaukee Association of Commerce. According to a letter received by Mr.

Jeske, the first meeting of this committee is to be held February 14th.

Next order of business was the appointment of T. E. Tonnsen, chairman, and Paul Biersach, advisory, as committee on the "Individual Contractors Association" who have their office at 419 Broadway, in care of the Plastering Contractors Association.

Vetter Hardware Company, 980 Holton Street, were proposed for membership by Mr. Rogenberger. Notice made and carried that their application be accepted upon payment of initiation fee and dues.

Butters Fetting Company, 461 11th Avenue, were proposed for membership, having attended our annual convention and expressed their desire at that time to join us. Motion made and carried that their application be accepted upon payment of initiation fees and dues.

Mr. Bogenberger reported a vacancy in the office of secretary, due to the fact that Ralph Gehring, who was elected at our January meeting, has left the Consolidated Sheet Metal Works and is no longer a member of this association. This brought up some very interesting discussion on the subject of a paid secretary who could devote more time to the interests of our association than is possible with the present arrangement. The chairman appointed a committee to go into this matter thoroughly and report at the next meeting.

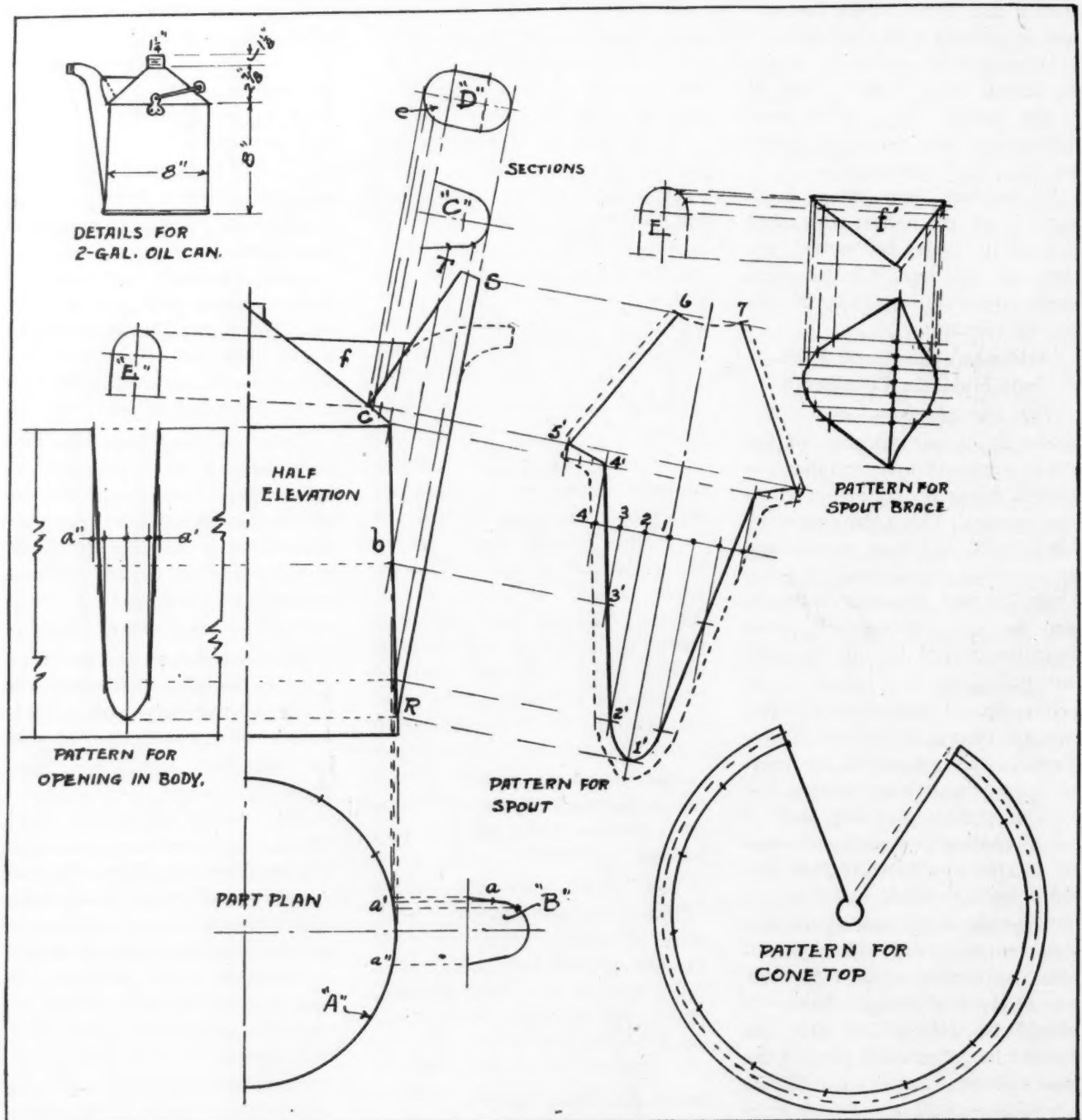
Committee consisted of Jos. Bauer, Paul Biersach, W. Belau, Louis Reinke, T. E. Tonnsen, Walter Bogenberger, and were to meet at the office of T. E. Tonnsen at 2 p. m. Monday, February 18th.

Motion made and carried that the following be appointed to act on the Executive Committee for the year: R. Jeske, T. E. Tonnsen, Alfred Goethal.

Expressions from members on their experiences in business were freely given. Instances of the zinc companies quoting direct to general contractors were brought to light.

Advertising of the association to promote membership was also spoken of.





Patterns for a Two-Gallon Oil Can

## Constructing Pattern for a 2-Gallon Oil or Gasoline Can

*Problem Brings Into Use Designer's Ability to Calculate Volumes*

By O. W. KOTHE, Principal, St. Louis Technical Institute

**O**IL cans of a special design or construction are often required, and so we shall show a few drawings of such work. In our upper sketch we show the general measurements for a 2-gallon oil can. One of the first items to consider is

the correct measurement such as will satisfactorily pass the inspector of weights and measures of your city. Men who are unable to calculate volumes and so design their own tanks and measuring vessels should secure the assistance of the

city officials who have charge of the weight and measure department. Next in the weight of the metal also has some influence since a heavier thickness requires more careful workmanship in order that the inside measurements are main-

tained. On light metal the difference is not very pronounced. So in our top elevation drawing we see the body is nothing but a cylinder and the top is a cone, while the spout is an oblong tube cut so as to fit against the can.

First draw the center lines of the elevation and from this detail the height and width of vessel, giving the top the desired pitch, which ordinarily is 45 degrees. It is a problem to be settled just where the can must be filled, whether to the straight rim or the top of the screw cap, so that the drawing must be made accordingly. One of the things is to develop miter line between spout and the can, which is best done by using a part plan as the section "A" and "B" show. Here the lines from "B" are extended into "A," as from a' to a". From here they are erected into elevation to cross those lines dropped from "C," as at R and b. The rest of the spout is made according to section "D" and will form a butt miter to the can surface.

This is really a difficult miter to arrive at, especially since the spout seems to change its shape, and so one of the best ways is to approximate the development and if any adjustment is necessary to trim it slightly. This can be done by developing lower part by the parallel line method and treating upper part by conical line method. This is much more simple than if triangulation were employed, since on such small work triangulation would be rather confusing. So we pick the girth from section "C" and set it off on the line 1-4 at right angles to R-S from center line of pattern. Then draw stretchout lines and from points at R-b-c project lines into pattern cutting those lines of similar number, which gives the pattern for the lower portion. Then to arrive at the upper part measure girth from center lines as 6-7 and also measure girth with the base at point 5' equal to section "D." By projecting lines in manner shown an approximate pattern can be easily secured in the points 4'-5'. Since this part of the spout is quite narrow in

diameter in proportion to diameter of the can so that it may be considered to rest on a flat inclined surface. Any little helping that may be required can be easily given after the article is formed.

The reinforcement, f, of elevation is developed similar to the drawing at the right, which is reproduced as at f'. Here we show section E, which is reproduced from "E," and by projecting lines into the elevation f' we establish the points for dropping down into the pattern. The

### WHAT'S WRONG HERE?

Osage, Iowa.  
Feb. 12, 1929.

American Artisan,  
Chicago, Illinois.

Gentlemen:—

We make up considerable tin ware, such as cans, strainers, etc., from Bright Tin Plate, and we use rosin for flux and bar solder for soldering the seams.

We have trouble with the rosin leaving a dark streak and this makes the article looks dirty.

Could any one tell us of some flux or solder that we could use that would not do this? We notice that manufactured cans, etc., that are soldered do not show any sign of the flux and that the soldering looks clean and neat.

We would appreciate hearing from any one who can help us out of our difficulty.

Yours truly,  
JOHNSON PLBG. &  
HTG. CO.

girth of the pattern is taken from diagram E, after which the development is made as shown. The top of the can is made by extending the side line to the apex and describing it much the same as any pitched cover. The circumference for this cover can be taken from part plan or it can be calculated if desired. In arriving at amount of cut-out for tube or spout, we pick the spaces a'-a" from plan and set them as in pattern a'-a". Then draw stretchout lines and from each point in elevation, as at R and b-c, we bring over lines to cross those in pattern of similar number, which enables drawing the outline for the miter line between spout and the can. Edges must be allowed on all patterns for assembling.

### Screwnails for Fastening Sheet Metal to Wood Have Greater Holding Power

The Parker-Kalon Corporation has worked for a long time on a

nail for fastening sheet metal to wood which would not bend, back out or loosen as do ordinary nails. They have perfected such a nail.

This new nail is called the "Screwnail" because it combined the qualities of both a nail and a screw—it is driven like a nail and it holds like a screw.

The hardened spiral thread and needle pointed pilot of the "Screwnails" enables it to be driven through much heavier sheet metal than ordinary nails without bending—in many instances, it eliminates the necessity of punching or drilling holes in the sheet metal. The hardened spiral thread of this "Screwnail" forms a thread in the metal burr and wood securely fastening the sheet metal to the wood.

Laboratory tests made at Columbia University show that hardened "Screwnails" have over four times the holding power of ordinary nails, say the manufacturers.

Among the many uses for Parker-Kalon Hardened "Screwnails" may be mentioned the following: Sheet Metal Workers for fastening cornices, metal ceilings, corrugated sidings, and sheet metal work in general to wood.

Roofers: for laying tin roofing for fastening gutters, flashings, etc., to wood.

Fire Proof Window and Door Manufacturers: for fastening mouldings, trim, etc., to metal clad windows and doors.

Automobile Manufacturers and Body Builders: For fastening body, door and roof, trim pads, upholstery, wind-breaks, body, drip and running board mouldings, etc.

As a matter of fact it is an ideal means of fastening sheet metal to wood.

### General Zinc Smelting Company Incorporated

General Zinc Smelting Corporation, Henryetta, Okla., has been incorporated with \$500,000 capital by George W. Moore, Webb City, Mo.; O. A. Aesterle, Henryetta, Okla., and C. S. Blanchard, Joplin, Mo.

# Air Travel, Warm or Cold, Is Governed Entirely by Nature's Rules

*If Rules Are Violated, Penalty Is Air Resistance—Help Nature, Do Not Hinder Her*

By B. F. JOHN, 1003 Race St., Philadelphia

**Y**OUR issue of January 12th has a plan of the home of W. G. Jenkins, Wahoo, Nebraska. You head the article concerning this illustration in part "Case of unbalance in installation," but it is a lot more than that; it is typical of just what the trade needs to correct before we can place the warm air heating industry where it truly belongs. Let us be practical, but be-

11 miles an hour, and the prevailing wind is from the north and west.

Figuring this house by the Standard Code, and checked by the B.t.u., we find the first floor has 355 square inches H.P.A. required; second floor 236 square inches. Total 591 square inches heat pipe area.

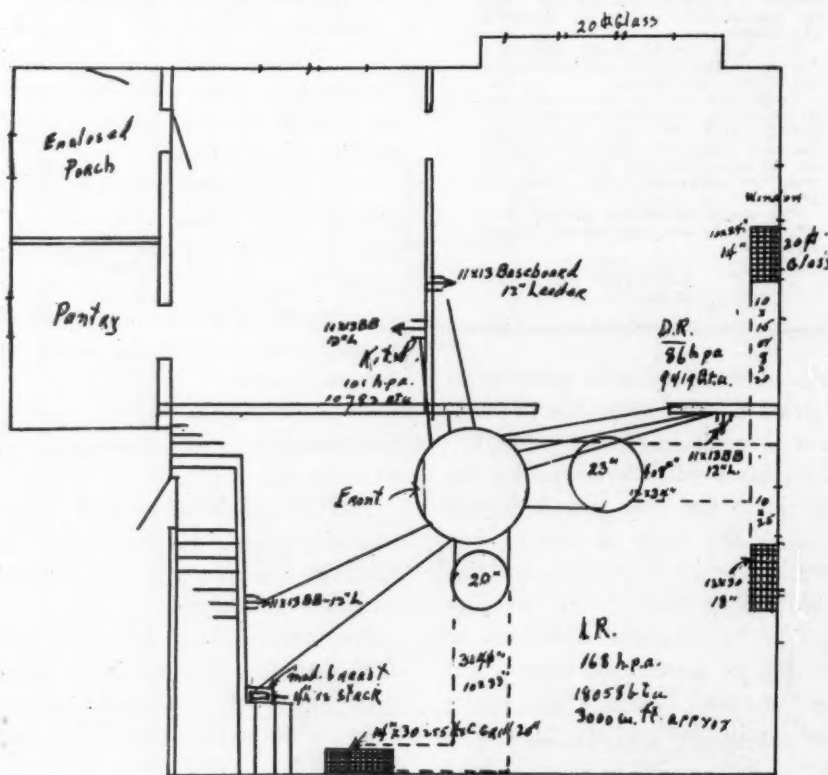
The furnace is a 27-inch body, with 2.9 square feet grate area rated at 650 square inches H.P.A. So far

underground air duct give up 50 per cent of its area; hence the overheated basement. If a fan is added this can be increased.

**Heat Supply.** Far better results could have been obtained if the two floor registers in the living room had been placed in the north side or west side of the room, because it is far easier to carry heated air through 12-inch heat leaders to the point most needed than to try to pass it through approximately 3000 cubic feet of colder air, especially from a floor register, which is checked by infiltration from windows and stairway opening; the dining room windows through the arch way; the cold air strata on the floor. And in this case with the cold air returns improperly placed it is doubly hard.

Dining room and kitchen should have separate baseboard registers; the lack of heat in the dining room is mostly due to the fact that there is 40 square feet of glass infiltration; 20 square feet on the prevailing wind side. The air pressure is from West to East and as the two rooms measure D. R. 86 and kitchen and pantry 101, as there is no door between the kitchen and pantry, this totals 196 square inches H.P.A. and a 14-inch pipe is not sufficient; not considering the wind pressure and —29 degrees below zero.

**Second floor:** The North bedroom measures 75 square inches H. P. A. and the 8 inch x 8 inch heat register has an area of 45 square inches; stack not given; leader area 64 square inches; the register is 16 feet 2 inches from the prevailing wind side. The south bedroom measures 52 and the bath 37, total 89, supplied by a double header 8 inches by 8 inches and a 9 inch leader. The wind pressure drives



Showing Arrangement Mr. John Would Make

fore doing this may I offer just one fundamental rule.

Air, warm or cold, has a travel governed by nature's rules; when we disregard these rules, we are penalized by resistance.

I am submitting a rough sketch of my correction of this heating system. All nature's rules have been broken in your sketch, viz:

Nebraska has a mean temperature of —29 to —35; wind velocity

we are correct, but it is located in the wrong position to be effective. (See plan.)

**Cold Air Supply:** No underground air duct more than 13 inches deep is 50 per cent efficient. Two air ducts at different levels means both are retarded in flow because of the difference in temperature in them. A high rate of combustion, say 12½ pounds to one square foot of grate surface, will only make the



the 64 inches into the bath room. These should have separate registers. Shifting winds will cause suction.

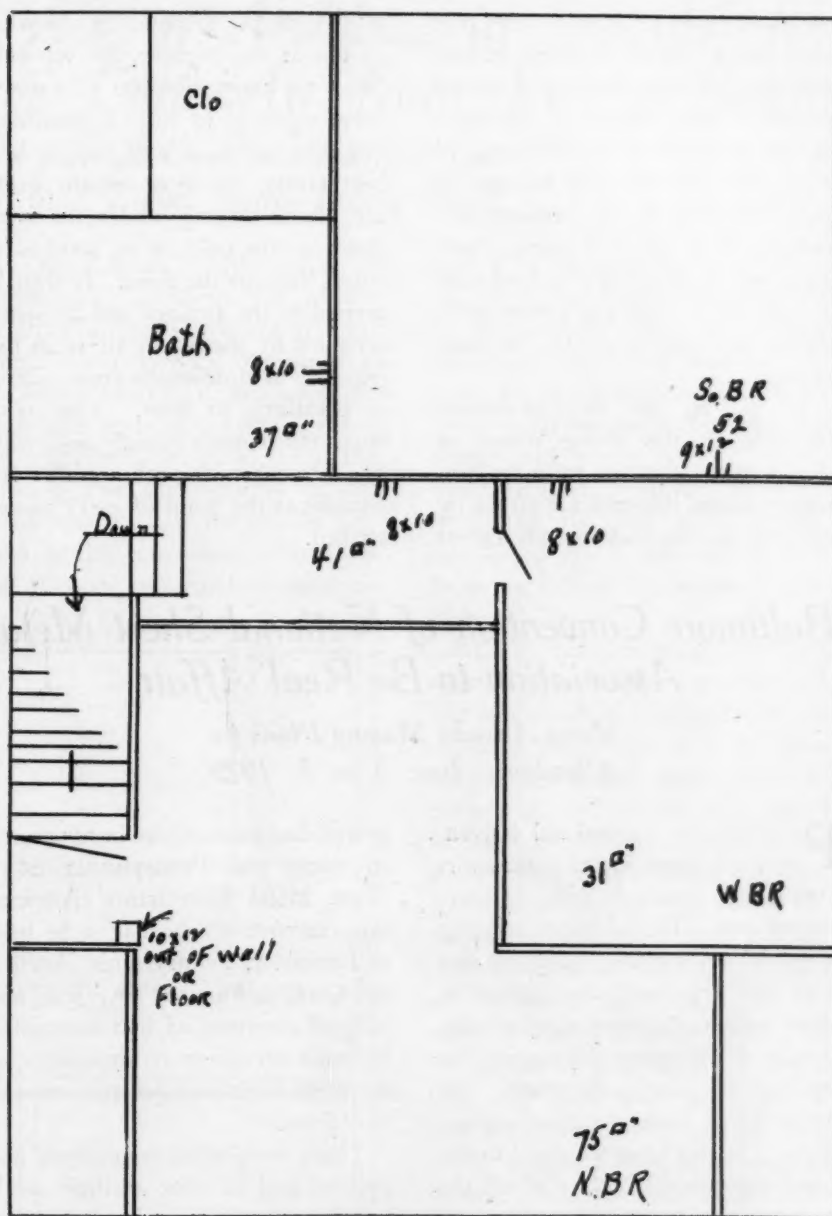
The return grills in the living room should be placed: One under the West or North window; the other between the base of the stairway and the front door. Air travels the same as water when cold and will not turn around the newel post of a stair into a grill but continues straight toward the front door.

There is a difference of opinion concerning the length of return air piping, yet in this system if the furnace was moved toward the Northwest it is far better to catch the cold air as it enters and convey it to the furnace than have it travel across the room. Another point, the second floor hall is not heated, and as the air descends it passes a window at the head of the stairs, which cools it further. A register placed in the second floor hall would assist in heating this floor. The stack to the North bedroom register could be used for a register in the hall.

The free area of registers is just as important as free area of heat pipe and in my opinion a register should never be used smaller than 8 x 10 and then only for small rooms that are protected. A double headed register should never be used except on rooms that are well protected and on the outgo side of the house. We never use a double header on the first floor.

In the rough sketch submitted you will note that the north bedroom is planned to be heated by a 4x12-inch stack in the corner of the first floor stairway with a 10x12-inch out of the wall or floor register, the former preferred. This stack may be placed at any point in the first floor that reaches the front half of the north bedroom, and the stack covered with compo-board or other material and papered.

If this is not entirely clear I would be glad to go further into the plan submitted if you will print a layout of the basement. If this basement is clear or can be made clear to arrange the heating apparatus as planned, the cost of the change will



Second Floor

be saved in fuel in a few years and the house well heated.

Summing up the real trouble in this house is that the return grills are in the wrong position; the furnace is in the wrong place; note the new position has no pipe over 10 feet long. There is not sufficient return air actually reaching the furnace. The return air should be 20 per cent larger in volume than the heat in that climate, because a large volume of heat at a proper register temperature is far more efficient than a smaller volume at a high temperature and travels faster at less expense. The second floor registers and heat leaders and probably stack lack proper free area. The

stack should be 70 per cent of the proper basement leader.

#### Wind Pressure

Wind pressure has a good deal to do with the heating of this house. The pressure is from northwest to southeast. The major infiltration enters on the northwest and exhausts on the southeast; that is a rule of nature. If then the register is placed in the northwest, nature will help by driving the heat through the room. If placed elsewhere, we must make provision to take care of this infiltration, or most of it, so that the heat may reach the northwest corner. The two floor registers in the living room are easily retarded, and we need only to place

a 2-foot piece of 12-inch heat pipe over one to see the increase in heat delivery. Every door when opened checks a floor register. The trade should endeavor to avoid the use of floor registers, not only because of rapid checking by air currents, but because these are dirt catchers and soon look shabby when walked over a short time. Side wall return grills should have preference for the same reason.

In placing the two baseboard registers in the living room, as shown in the plan, we raise the heat supply above the cold air strata on the floor, as the heat ascends almost

at a 70 degree angle along the wide or top of the register, the top half being the most efficient. To assist these registers to form a breathing line heat strata as well as a ceiling heat strata, the floor return grills are placed directly under the windows, as the cold air as soon as it enters falls to the floor. It then is carried to the furnace and its space occupied by the warm air from the registers as it descends from ceiling to breathing to floor. The room heats much more rapidly and with less fire when we remove this resistance at the point of entry as described.

## Baltimore Convention of National Sheet Metal Association to Be Real Affair

*Many Already Making Plans for Attendance June 3 to 7, 1929*

**P**LANS for the national convention of sheet metal contractors are going forward with uninterrupted zest. In Baltimore recently a special get-together luncheon was held for the local association of sheet metal contractors at which discussion of the plans for staging the convention were discussed and brought to a further state of perfection. The luncheon was held in the Lord Baltimore Hotel at which the convention is going to be staged.

W. A. Finges, Sr., is chairman of the general convention committee and is working hard to put this thing over big. Plans are being made for an unusually large attendance at this convention and the Baltimore local is going to a good deal of expense to do it. It is thought that many contractors usually take trips of one or two weeks' duration in the summer time and they can very easily arrange to do this at the time of the national convention. There is no end to the number of places of historic interest to be visited in the east, and it is felt that here is a good opportunity to do some of the things and visit some of the places you have long wanted to see and do.

During the meeting it was sug-

gested that a committee be appointed to attend the Pennsylvania State Sheet Metal Contractors' Association convention which is to be held at Lancaster, Pennsylvania, April 2 to 4. Mr. Finges, Sr., was appointed chairman of that committee to make necessary arrangements to motor to Lancaster for the convention there.

There were other committees appointed and as soon as their work has been entirely mapped out for them these will be named as well as their personnel.

Every sheet metal contractor who can possibly do so should plan to attend the national convention in Baltimore. It is going to be a well organized, educational and entertaining meeting and a lot of good is going to be derived from attendance at it.

From a geographical standpoint Washington, D. C., the national capital, is only a short distance from Baltimore. Baltimore itself is an historic city, with many points of unusual interest. Not far away is New York City and the beautiful mountain drives of New York State.

Coming as the convention does in the forepart of June, the weather

will be ideal for a motor trip of this kind. It is to be hoped that all those who can possibly do so will avail themselves of the opportunity to attend the convention.

For full information concerning hotel reservations, etc., write to the convention headquarters, National Association of Sheet Metal Contractors, Lord Baltimore Hotel, Baltimore, Maryland.

### WHO'S WHO, WHERE!

BURNS, ORE.—Courtley Allen and Wm. Spencer have engaged in the sheet metal work business under firm name of Allen & Spencer.

NORTH MANKATO, MINN.—Jack Skaliky and Percy Nelson have opened a sheet metal shop at 614 Nicollet Avenue, and will do furnace work, roofing and general sheet metal work.

ST. PAUL, MINN.—T. F. McCormick, 710 Pioneer Bldg., has been awarded the contract for metal pans for the \$2,000,000 Rand building in Minneapolis.

The state of Minnesota, through H. W. Austin, commissioner of purchase, 10 State Capitol, St. Paul, Minn., will take bids on construction of a \$50,000 building in St. Cloud, Minn., and equipping same for the manufacture of license tags, highways signs, etc.

MINNEAPOLIS, MINN.—Rainville & Carlson, 508-10 West Lake street, have received the roofing and sheet metal contract for Hobart Memorial M. E. Church.

PORTLAND, ORE.—The Mueller Furnace Co., 1183 Williams street, has furnace contract for residence of Mrs. Anna Gurin.

STOCKTON, CAL.—The Fraser Gas Furnace Co., 445 S. San Joaquin street, has ordered plans prepared for a factory building to cost about \$50,000.

SACRAMENTO, CAL.—Sinclair & Bessey, 2422 J street, have the contract for sheet metal work for \$300,000 school building, while the Palm Iron Works, 15th and S streets, has the steel sash contract, and Geo. C. Smith, 910 9th street, the steel rolling fire door contract.

SAN FRANCISCO, CAL.—The Forderer Cornice Works, 269 Potrero Ave., has been awarded hollow metal contract for alterations to Fairmont Hotel.

LOS ANGELES, CAL.—The Arcade Cornice Works, 721 E. 12th street, has been awarded sheet metal contract for Southern California Telephone Co. Club Building.

HOPWELL, VA.—The Hopewell Sheet Metal Works has let the contract for construction of \$15,000 business building.

ST. LOUIS, MO.—The Metalcraft Corp., of which S. C. McCluney, 5101-15 Penrose avenue, is president, has let the contract for construction of metal toy manufacturing plant to cost \$80,000.

NORFOLK, VA.—The American Sheet Metal Corporation, 2713 Colley avenue, has been awarded the roofing and ventilation contract for the S. S. Kresge Co. building.

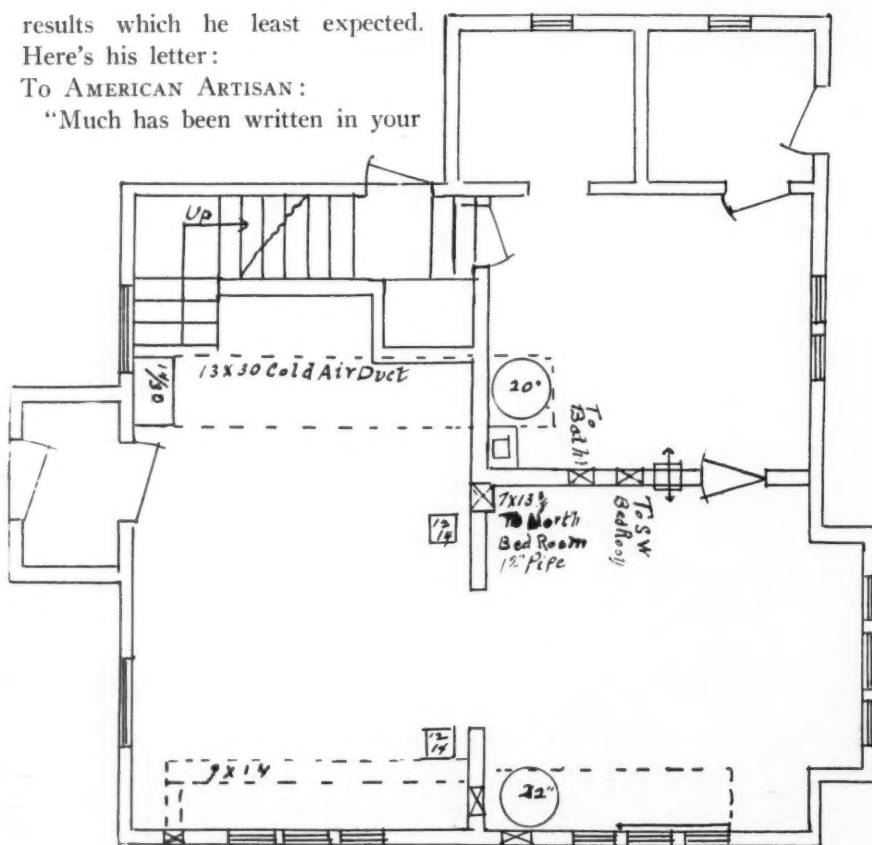




results which he least expected. Here's his letter:

To AMERICAN ARTISAN:

"Much has been written in your



First Floor Plan and Register Arrangement

magazine in vindication of warm air heating, and justly so.

"I believe that the trade in general absorb most of this valuable information, but are reluctant, or may I say negligent, in passing it on to the channel in which it would do the most good, the ultimate consumer.

"For instance, I have known for years, and everyone else in this most worthy industry knows also, that when we read articles in newspapers, stating that the cause of a fire was an "over-heated furnace," that this is true in not one case in thousands. Now then, the fact that I knew this did not help matters in the least, as the prospective furnace buyer would go on reading such notices and become convinced in many cases that a warm air heating plant is more or less of a fire hazard and not the thing to have in their home.

"I am inclosing a clipping from the Milwaukee Journal, of a letter I wrote to them on this subject, and which they very graciously published.

"When I wrote the letter, I did it more as a means of venting a cer-

tain resentment and, therefore, was surprised to find that a good many of the dealers not only in Milwaukee, but up in the far end of the state, had noticed it and approved of it.

"These small things do not cost anything, and I believe that quite a lot of good can be derived if dealers throughout the country will take this matter up with their local newspapers."

The letter which George wrote to the *Milwaukee Journal* and which that medium published in full reads as follows:

#### It Isn't the Furnace's Fault

To The Journal: "Overheated furnace sets fire to house." How would that sound to you if you were one of the several hundred manufacturers of warm air furnaces, or one of the many thousand installers engaged in this industry in the United States?

I shudder, and I am sure that thousands of others engaged in this most worthy industry do likewise when a fire notice appears in the newspapers, because if the cause is traced to be "heating plant"—whether hot water, vapor or warm air—the article will invariably end by saying that the cause was traced to an "overheated furnace." The word "furnace"

means only one thing—a warm air heating plant.

Tuesday night I listened to a radio talk on fire prevention. I would have been willing to place a wager that before the speaker had finished he also would make the misleading statement "overheated furnace," and sure enough he did.

There are warm air, hot water, steam and vapor "heating plants," and all of them have the proverbial smoke pipe and all require a chimney.

What actually happens, instead of being the fault of an "overheated furnace," can invariably be traced to a defect in the smoke pipe, leading from furnace or boiler to the chimney, or a defect in the chimney itself.

To prove to you how much the state respects the fire hazard caused by smoke pipes the heating code reads that smoke pipe shall be at least two diameters from woodwork, which ordinarily means 18 inches.

The heat ducts leading from furnaces to the rooms do not carry temperatures high enough to start fires, except in very rare cases.

So therefore in justice to the warm air heating industry and particularly to the hundreds or more first class companies engaged in this business here in Milwaukee, won't you please in the future refer to the fire as originating from the "heating plant" and from an "overheated furnace"? Better still, and you will not miss it in one case out of a hundred, refer to it as an overheated or defective smoke pipe or chimney.

George C. Jordan.

667 Illinois Ave., Milwaukee.

It would be a fine thing if every warm air furnace installer would see to it that the origin of fires were investigated and if these fires are found to be caused overheated boilers or heating apparatus other than the warm air furnace, to bring this discrepancy on the part of the reporters to the attention of the managing editors. Let's all constitute ourselves policemen in this matter in an effort to see that the warm air heating system is not called upon to bear the shortcomings of competitive systems.

Mr. Jordan deserves a great deal of credit for his vigilance and for his activity in endeavoring to show newspaper editors that there is a distinction between a warm air heating system and a steam or hot water system and that they do the warm air heating system an injustice by saying that "an overheated furnace caused the fire."

# Midland Furnace Company Develops New Type of Dealer Help Advertising

*Old Method of Pushing Company Name to the Fore Entirely Done Away With*

THE FURNACE installer today is being admonished to do a lot of things to improve his business. He is told to use the Standard Code in his installation work. He must clean up his windows so as to present a good front to his customers. He is admonished to keep records of each and every job so that he can know whether the jobs he takes are netting him a profit or a loss.

But the thing which is being stressed at the present time is the

necessity for an adequate tieup with the advertising which the company whose furnace the installer handles is doing.

In any business selling is the all-important thing. Next to selling comes service, but there can be nothing until the sales are made. Consequently all the activities of that business are centered around and are pointed toward making sales in the first place, and giving adequate, dependable service in the

second. The installer should have a two-fold aim in the advertising which he is doing. He should aspire to draw public interest to warm air heating in general and then taper this interest down to where it is concentrated on the product which he handles and the service which he renders.

But warm air furnace men are for the most part not long on salesmanship. Neither are they "born" advertisers, as the phrase goes. Therefore they are weakest in the things concerning their business in which they should be the strongest.

Furnace manufacturers have recognized this deficiency in their dealers and many of them have spent much time and money in the attempt to supply what the installer lacked by giving him assistance in getting his name, service and products before the public. The main trouble with this material generally was that, although it was excellent in principle, the manufacturer generally had so much of the space covered with his own name and product that he had little room left for the name of the dealer or what he might want to say. Consequently when the dealer was approached with material of this kind, said material generally found its final resting place in the basement or the rubbish can.

Now along comes a warm air furnace dealer who thinks that he can supply the deficiency in the dealer and at the same time give him material which he can use to his advantage without the necessity of having to take a back seat because of the fact that the furnace manufacturer has squeezed him unmercifully by crowding his own name and product into the same picture. It is one thing to call attention to the warm air heating method of being comfortable, and



**~ CLEAN ~**

**N**O, this is not an advertisement voicing the unusual qualities of Folate's Fragrant Soap or Blane's Superior Bathroom Fixtures.

It is a story to the housewife who wants her family to breathe Pure, Clean, Warm Air and who desires to

free herself from the extra hours of cleaning drudgery caused by dirt originating from the heating plant.

You are entitled to "Cleaner Heat" . . . Let us show you how to get it. It is easy the Midland way. 'Phone us or come in today.

*Yours for "Cleaner Heat"*

**DEALER'S NAME**  
AND ADDRESS HERE

**MIDLAND FURNACES**

**ALL STEEL**  **CLEANER HEAT**

An Appeal to the Desire for Cleanliness

quite another to force your own name onto the attention of the public without at least telling them first wherein they can benefit by listening.

The Midland Furnace Company, Columbus, Ohio, have worked out a plan with which they believe they can give the warm air furnace dealer what he lacks, while at the same time holding the company itself far enough in the background to keep it from becoming obtrusive but still identifying it with the product.

This company has produced a series of six warm air furnace advertisements that the warm air furnace installer can use in his newspaper advertising which are unique in that they emphasize an entirely different phase of the warm air heating industry from that which has been so constantly used in the past. Three of these advertisements, including the first and sixth, are reproduced herewith so as to give the reader an idea of the tone in which they are couched. They are well executed and it is hoped more like them will appear.

These advertisements, it will be seen, are written from the standpoint that the ultimate consumer is primarily interested in purchasing those things which add to the sum total of his comfort and convenience. Of course economy and reliability of operation are not neglected or lost sight of, but have their place as well in the series. The primary appeal in them, however, is to something in which the home owner is vitally interested.

In producing this series the manufacturer has succeeded beyond expectations in his effort to give the furnace installer something that he can use to his own advantage in his own local newspapers and window displays. Complete information on this new type of advertising material can be had by any warm air furnace installer by writing to the Midland Furnace Company, Columbus, Ohio. It will be to your advantage to get the entire series of this material for your perusal and use.

### American Oil Burner Association to Convene at New York, April 9, 10, 11

An exposition depicting the rapid development of the oil heating industry and modern oil equipment will be one of the features of the sixth annual convention of the American Oil Burner Association, to be held in the Hotel Pennsylvania in New York, April 9, 10 and 11, 1929.

Arrangements are being completed for an attendance of between 2,500 and 3,000 delegates, representing the oil heating industry and allied industries in all parts of the United States and Canada.

The exposition itself will include a display of everything that enters into the manufacture, installation and general use of oil burners, and

will be restricted to members of the association.

Officials of nation-wide reputation and prestige, representing the oil industry, the electrical industry, the automobile industry and the National Chamber of Commerce, have accepted invitations to address the convention, and arrangements for other features of a business and educational nature are under way, it is announced.

Included in the list of speakers are Elliott Harrington of the Industrial Engineering Department of the General Electric Company, who will speak on the subject of "The Part Electricity Plays in the Operation of Domestic Oil Burners," and Borden & Busse, professors of New York University, who are scheduled to discuss "This Business of



**Spot News  
Here  
or  
Demonstration  
Notice**





## STURDY AND CLEAN CONSTRUCTION

**L**IKE the guardians of our coasts, the Trusstee Furnace is all steel, riveted and called . . . Sturdy and clean in construction — which means Longer Life, Better Service and "Cleaner Heat."

This All Steel Furnace, when scientifically installed, will insure Clean, Pure Warmth all over the house. Its 18 superior points give you all the advancements and refinements obtainable in a heating unit. The outside shaker lever eliminates labor and dirt in basement. The self-directing draft damper makes uniform heating certain.

Let us look over your present plant if you have one, and give you an estimate on the installation of "Cleaner Heat." You will be surprised at how reasonable this can be accomplished.

Yours for "Cleaner Heat"

**Dealer's Name and Address Here**

# MIDLAND FURNACES

**ALL STEEL ♦♦♦**

**CLEANER HEAT**

Note How Sturdiness of Construction Is Exemplified



Selling."

Reduced railroad fare on the "certificate plan" has been arranged for to apply to both delegates and their families.

## Thornton Lewis Elected to Head American Society of Heating & Vent. Engineers

*Has Enviably Record in Business World—  
Untiring in Work on Society Affairs*

**T**HORNTON LEWIS, Philadelphia, was elected President of the American Society of Heating and Ventilating Engineers at the 35th Annual Meeting, Chicago, Ill.

Since 1923, Thornton Lewis has been a member of the Council, and has been one of the most energetic

members in the advancement of the Society. He was Chairman of the Committee on Research, and a member of the Committee to Determine Maximum Boiler Output, and also the Committee on Garage Ventilation, while his accomplishments, when he headed the important gen-

eral committees of the Council, such as the Finance and Executive Committees, are well known.

Mr. Lewis has established an enviable record in the business world since his college days. After serving his apprenticeship with Buffalo Forge, Buffalo, N. Y., he became



Thornton Lewis

sales engineer in New York City for this concern, and the Buffalo Steam Pump Co. From 1911 to 1921 he was senior member of the firm of Lewis, Robinson and Gant, and at the same time he acted as Philadelphia District Manager of the Buffalo Forge Co., Buffalo Steam Pump Co., and Carrier Air Conditioning Co. During the war years of 1914 to 1919, he served as consulting engineer for E. I. DuPont de Nemours Co., during which time he supervised the installation of the heating, ventilating and drying equipment for over thirty plants, and in addition, supervised the installation of this equipment for several buildings erected for the United States Government.

He organized the York Heating and Ventilating Corporation, and in 1921 became actively associated with it. At present he is President and General Manager of this organization, which has offices and branches in the principal cities of the United States.

Although Mr. Lewis has a distinguished record as a heating and



**TRUESTEEL**

### THE 18 POINTS TRUESTEEL FURNACE

- |   |  |
|---|--|
| 1 All steel construction.   | 10 Unbreakable front—<br>all steel.                |
| 2 Rotary grate—<br>no pins, bolts or nuts.                            | 11 Outside shaker lever—<br>waist high.            |
| 3 Handfitted<br>doors.  | 12 Pouches through front—<br>no joints near doors. |
| 4 Correct radiator<br>brackets.                                       | 13 Three fire radiator—<br>longer fire travel.     |
| 5 Copper bearing<br>steel.  | 14 Heavier weight steel—for<br>longer life.        |
| 6 Riveted and caulked—<br>gas and smoke proof.                        | 15 Large double feed<br>doors.                     |
| 7 Adequate humidifier, correctly<br>located, scientifically designed. | 16 Designed for quick and easy in-<br>stallation.  |
| 8 Full fire brick lining. Up to<br>smoke collar in rear.              | 17 Self-closing direct draft<br>damper.            |
| 9 Pried within<br>reason.   | 18 Quality merchandise produced in<br>quantity.    |

**Dealer's Name and Address Here**

# MIDLAND FURNACES

ALL STEEL



CLEANER HEAT

## CLEAN HEAT HAS ARRIVED

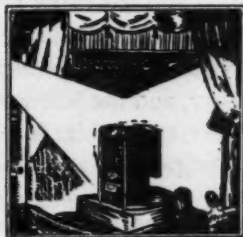
**EVERY** home can now have Cleaner Heat. Scientific advancement has made this possible. With a correct installation and a Truesteel Furnace you are assured that which you are entitled to.

Let us demonstrate what Cleaner Heat means.

## NO SMOKE NO GAS—NO DIRT DEMONSTRATION

Friday and Saturday  
January 18th—19th

PUBLIC INVITED



A private demonstration to show how "Cleaner Heat" is obtained at a Price within Reason, at any time.

ventilating engineer, he has established an enviable record in other engineering lines. He developed and patented the Lewis Control System, a master electric controller for operating a large number of electrically driven pumps.

Mr. Lewis is a business man, but he enjoys his home in Merion, plays golf on occasions, never misses a football game, and finds time to investigate life in the tropics when the chill blasts of winter hover around Philadelphia.

On account of his wide business experience, Mr. Lewis is known to be one of the most able executives in the Society, and under his leadership it is expected that the A. S. H. & V. E. will have a prosperous and active year in 1929.

**Thank You, Mr. Malerick,  
Your Letter Gives Us the  
Greatest Pleasure of All**

TO AMERICAN ARTISAN:

"Some time ago I wrote in asking advice on a heat booster on a pipeless furnace with which I was having trouble. Right here I want to thank you and all the men of the trade for all the advice you all gave me. It surely is very gratifying to know that when you are in trouble there are always a lot of men ready and willing to help you out.

"Here is what I found the trouble with the job. During the interval of time between writing to you and getting an answer I did a little experimenting and was lucky enough to strike the trouble and make the job work perfectly. All I did was raise the funnel two inches from the top of the casting of the furnace and the owner tells me that the job works without any priming and the bathroom is kept as warm as they want it, even hot if they desire it.

"Also in one of your back issues someone had trouble with creosote dripping from the smoke pipe on a furnace. I installed a Torrid Zone wood burning furnace last fall in a farm house. The owner used a lot of green poplar and tamarack wood which created a lot of creosote. By experimenting he found

that by leaving the hot blast slide open he eliminated all the creosote and also got more heat as the creosote was burned."

Arrowhead Sheet Metal Co.  
International Falls, Minn.

**"Bud" T. Land Associates  
With Williamson Heater Co.**

"Bud" T. Land has become associated with the Williamson Heater Company, Cincinnati, Ohio, and



"Bud" T. Land

will act as field manager of the fan division. He will give his entire time to the development and distribution of the Spee-Dee-Heet furnace fan manufactured by that company.

Mr. Land has many years of successful experience and a broad acquaintance in the warm air furnace industry, and the best wishes of that industry attend him in his new undertaking.

**Eugene J. McVoy,  
Sheet Metal Mfg.,  
Dies Suddenly on Trip**

Eugene Joseph McVoy, 3030 Lake Shore Drive, president of the McVoy Sheet and Tin Plate Company, died February 25 in Cairo, Egypt, according to word received by relatives here yesterday.

Mr. McVoy was spending the winter in Cairo with his daughter, Mrs. E. W. J. Holden. A heart attack was the cause of death.

Mr. McVoy was born in Cleveland December 24, 1872, and came to Chicago as a child. The McVoy Sheet and Tin Plate Company, of which he was the head, succeeded the old firm of John McVoy and Company, founded in 1877 by his father, the late John McVoy.

Mr. McVoy is survived by his widow, Celeste Aymond McVoy, three daughters, Mrs. E. W. J. Holden, Mrs. Sidney Gorham, Jr., Jean Dorothy McVoy and one son, Eugene, Jr. He was a member of the Chicago Athletic Association for many years. Interment will be in Chicago with further announcements later.

**Many Furnace and  
Sheet Metal Exhibits at  
Ohio Hardware Show**

Acorn Elbow & Mfg. Co., Cleveland, Ohio Elbows.

Beckwith Company, Dowagiac, Michigan. Stoves and furnaces. A. W. Carpenter, J. F. Darling, John Nugent and E. W. Sidwell.

The Globe Stove and Range Company, Kokomo, Indiana. "Globe" Glow-Boy, Ray-Boy, enameled cast ranges and cast ranges. L. S. Fisher, E. I. Kokenge, W. A. Cooper, F. W. Thompson, Charles R. Curlee, advertising manager, and W. S. Toomey, vice-president and sales manager.

Fox Furnace Company, Elyria, Ohio. Furnaces and cabinet heaters. George Thomas, Ed. Skinner and W. L. Tulburt.

David Lupton's Sons Company, Philadelphia, Pa.

Marshall Furnace Company, Marshall, Michigan. Caloric pipe and pipeless furnaces. Forest Bolds, John Kendricks and I. C. Livingston.

Mt. Vernon Furnace and Mfg. Co., Mt. Vernon, Illinois. Vernoils furnaces, circulators and laundry stoves. R. S. "Tommy" Thompson.

Wheeling Corrugating Company, Wheeling, W. Va.

**Central Alloy Steel Corp.  
Subsidiary Buys Metal  
Furniture Plant**

The Berger Manufacturing Company, a subsidiary of the Central



Alloy-Steel Corporation, has purchased the metal furniture division of the Van Dorn Iron Works Company of Cleveland for a consideration of approximately \$1,000,000.

The acquisition includes all furniture machinery, tools and inventory in process.

In addition, the Berger Company has assumed all of Van Dorn's agency contracts, which consist of seventy-five exclusive agents and 250 dealers.

Sales of the Berger Company for 1928 amounted to over \$12,000,000 and at the end of the year its current assets totaled \$4,282,994 with cash of \$740,581. The balance sheet showed a surplus of \$5,036,544.

### Warm Air Furnace and Sheet Metal Exhibitors at Minnesota Hardware Show

Badger Corrugating Co., LaCrosse, Wisconsin. Sheet metal building products.—E. N. Knothe and C. F. Heineck.

Chandler Pump Company, Cedar Rapids, Iowa. New Chandler furnace, Chamberlin automatic humidifier, pumps and cylinders, ever American water heater.—E. A. Chamberlin and D. D. Lewis.

Fox Furnace Company, Elyria, Ohio. Sunbeam furnaces and cabinet heaters.—(Kelley-How-Thomson of Duluth, Minnesota, distributors.)

Homer Furnace Company, Coldwater, Michigan. Warm air furnaces.—W. C. Cortright. (Janney, Semple, Hill & Co., distributors.)

International Heater Company, Utica, New York. Furnaces.—(Farwell, Ozmun, Kirk & Company, St. Paul, distributors.)

Lennox Furnace Company, Marshalltown, Iowa, and Syracuse, New York. Steel furnaces. Showing all new 1929 models with latest improvements. Also an exclusive oil-burning furnace.—Roy T. Wasson, Sales Manager; George H. Graham, Otto Gacke and Harry Probst.

Minneapolis-Honeywell Regulator Company, Minneapolis, Minnesota. Automatic temperature regulators, Jewell regulators.—Lorin W. Smith, Jr., J. S. Lane and F. E. Snowberg.

Premier Warm Air Heater Company, Dowagiac, Michigan. Premier DeLuxe furnaces.—Frank A. Nelson, Minnesota representative, and Joe Worth, Wisconsin representative.

Rock Island Register Company, Rock Island, Illinois. Registers.—(XXth Century Furnace Company, 306 N. Washington Avenue, Minneapolis, distributors.)

United States Register Company, Battle Creek, Michigan. Warm air registers and furnace fittings.—R. Rodman and O. D. Stansberry.

The Warm Air Furnace Fan Company, Cleveland, Ohio. Miles furnace fan.—A. O. Miller, Minneapolis branch manager.

Waterman-Waterbury Company, Minneapolis, Minnesota. Waterbury Seamless steel furnace, Radio furnace, seamless home heater, ventilating system for schools.—H. G. Cross, J. T. White, T. J. Schwie, B. O. Schwarz and E. L. Schneider.

### David Lupton's Head Succumbs to Illness of Year's Duration

Edward Lupton, 63, president of David Lupton's Sons Co., Philadelphia, large manufacturer of steel window sash, display racks and other sheet steel products, died at his home in Jenkintown, Pa., February 21, after an illness of nearly a year.

Mr. Lupton was a past president of the Builders' Exchange of Philadelphia and was third vice-president of the Ornamental Iron and Bronze Association of America.

He was a member of the Union League, Manufacturers' and Philadelphia Yacht Clubs of Philadelphia.

### Barnes Metal Products Company Buys Building

Barnes Metal Products Company, 1531-35 Kingsbury Street, Chicago, maker of high grade eaves trough, gutters, conductor pipe and similar metal specialties, has purchased property at Sixteenth Street and Kilbourne Avenue with building thereon covering 50,000 sq. ft. of floor space.

### E. B. Bennett Moves from Wisconsin Rapids to Waterloo, Iowa

E. B. Bennett has sold the Rapids Sheet Metal Works at Wisconsin Rapids, Wisconsin, to D. A. Lester and Matthew N. Schill of that city, who will continue the business under the name of the Rapid Sheet Metal Works.

Mr. Bennett has moved with his family to Waterloo, Iowa, where he is in business under the name of the Bennett Furnace Company, 309 West Fourth Street. He is opening an exclusive furnace shop, handling Torrid Zone and Equator furnaces.



### Air Filter for Warm Air Register Boxes

From James A. Smith, 5120 Bayard Street, E. E., Pittsburgh, Pennsylvania.

Can you tell me who manufactures the air filter for warm air register boxes used in conjunction with warm air heating system, an advertisement of which appeared in a recent issue of AMERICAN ARTISAN?

Ans.—This is the air filter made by Tuttle Register Dust Catcher Company, 114 East Chestnut Street, Louisville, Kentucky.

### Art Craft Range

From Metzner Stove Repair Company, 515-17 Wyandotte, Kansas City, Missouri.

Can you tell us who makes the Art Craft Range? "A. M. P. Co." appears on it.

Ans.—Artcraft Metal Products Company, Columbus, Ohio.

### Cast Iron Water Coils for Furnaces

From Gen Furnace Company, 503 Quitman Street, Denver, Colorado.

We should like to know who manufactures cast iron water coils for furnaces?

Ans.—Alamo Heater Company, 6143 Wentworth Avenue, Chicago, Illinois.

### Retinning of Dairy Equipment

From C. B. Rose, 322 South Carolina Street, Louisiana, Missouri.

Will you please advise me who can do retinning of dairy equipment such as vats, coils, milk cans, etc.?

Ans.—American Retinning Company, 2409 South Wabash Avenue, and Thompson-Bremer and Company, 1750 Carroll Avenue; both of Chicago.

### Portable Window Ventilator

From George B. Cummings, 710 Fourth Avenue, S. E., Minot, North Dakota.

Who makes a portable louver with a screen for putting in windows when the window is raised?

Ans.—Akrat Ventilators, Incorporated, Builders' Building, Chicago, and Allen Air-Turbine Ventilator Company, Fourteenth and Howard Streets, Detroit, Michigan.

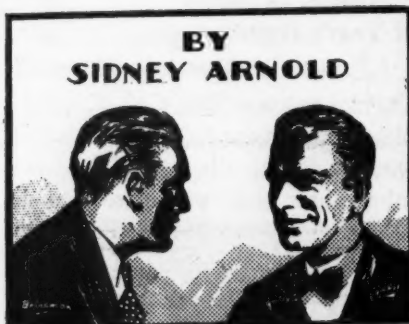


# RANDOM NOTES AND SKETCHES

F. E. Mehrings, manager of the Meyer Furnace Company, Peoria, Illinois, has just recently returned from an extended business trip of almost a month's duration to the west coast and through the south. I guess Frank got kind of tired of the severe winter weather we have been treated to throughout Illinois this year and decided to slip out west and to warmer climes. On the other hand, Frank is a hard, conscientious worker, and knowing this, I doubt very much whether he took much advantage of his opportunity to play the races in lower California.

\* \* \*

The accompanying illustration is that of the ring in the Pine Stadium, Flamingo Park, Miami Beach, Florida, where Jack Sharkey and



surely having a good time down there and I don't envy them one bit their good fortune. They have been hard workers and deserve the success they have captured.

\* \* \*

E. C. Hodges, Richardson & Boynton Company, New York City, was in Chicago during the fore part of this week. Mr. Hodges drops into town about every so often and



Where the Sheet Metal Men Viewed the Fight

young Stribling ironed out their differences of opinion on the night of February 27th. The reason this picture is being shown here is that the gentleman standing with his arm upraised is none other than our good friend, John Maier of John Maier Sheet Metal Works, Chicago Heights, Illinois, who, with Albert J. Wagner and Louis S. Rysdon, also of Chicago, had ringside seats for the fight. I think they just sent that picture in here to tantalize us birds who are not fortunate enough to be able to take our vacations in the winter time. Those men are

whenever he does he usually calls up to say Hello, which, of course, is very nice of him.

\* \* \*

Visitor: "Are you sure that Roy Harrison, the manager, is not in?"

Office Boy: "Do you doubt his word, sir?"—Chicago Branch, Rudy Furnace Co.

\* \* \*

A Scot, seeing a sixpence lying in the road, rushed forth to secure



it, with the result that he was run over and killed. The jury brought in a verdict of "Death from natural causes."

\* \* \*

## This Way Out

The show was swinging merrily along one night when suddenly the manager walked on the stage, stopped the show, and raised his hand for silence. He wore a half-scared look and was trembling with excitement.

"Ladies and gentlemen," he said, "there is no cause for excitement or a panic, but there is a man at the door flourishing a large revolver and demanding admittance. The door attendants are trying to pacify him, but they will not be able to detain him for long, as he has the advantage of having a revolver. He claims that some man is here with his wife, and so to avoid scandal or bloodshed, will that man please leave by the stage door?"

Seventeen men raced for the designated exit.

\* \* \*

## Regular Customer

Judge: "And I don't expect to see you here again."

Rastus: "Not see me here again? You isn't goin' t' resign, is you, Jedge?"

\* \* \*

## Headed That Way

Mary: "No, daddy, I won't need any clothes this spring."

Charlie Hall, her father: "Heaven save us. I was afraid it would come to that."

\* \* \*

## Safe

Cashier (buying fur coat): "Can I wear this fur coat in the rain without hurting it?"

Salesman: "Madam, have you ever seen a squirrel carrying an umbrella?"



## Fire from Flint and Steel—

What a crude and laborious method of making fire! Yet, less than a century ago this was the general practice of the Indians in what is now the "West that Inland Serves."

Compare this with our modern stoves and furnaces, many of which are made of INLAND OPEN HEARTH STEEL SHEETS.

The smooth surface and easy workability of these sheets give the finished product an appearance of beauty—their strength assures safety.

Manufacturers who are producing durable commodities use INLAND COPPER ALLOY STEEL SHEETS—they last three to five times as long as ordinary steel or iron.

*Send for Our Descriptive Booklet and Read the Facts*

BRANCH  
OFFICES  
KANSAS CITY  
MILWAUKEE  
ST. LOUIS  
ST. PAUL

**INLAND STEEL COMPANY**  
38 South Dearborn Street  
Chicago

WORKS  
INDIANA HARBOR  
INDIANA  
CHICAGO HEIGHTS  
ILLINOIS  
MILWAUKEE  
WISCONSIN

SHEETS ~ BARS ~ PLATES ~ SHAPES ~ RAILS ~ TRACK ACCESSORIES ~ RIVETS ~ BILLETS

*Say you saw it in AMERICAN ARTISAN—Thank you!*

## First Half Production Peak Nears

*Believe Record January and February Not Anticipatory—Semifinished Up \$1—Chicago and Valley Mills at Capacity—Sheet Sales Record*

**S**TEEL production is at the threshold of what is normally the best sixty days of the year. Though January and February have been record-breaking, there are no indications that this has been at the expense of March and April tonnage.

Requirements of the automotive industry and the railroads, which are the chief support of the current market, promise to be sustained well into spring.

On such important lines as steel bars, sheets and strip delivery dates have drawn farther away in the past week.

With concluding specifications against first quarter contracts for finished products scheduled to be in producers' hands by March 15, this condition apparently will be aggravated. Further advances in prices make current contracts the more attractive.

Semifinished steel continues the bottleneck of production, especially in the Chicago, Pittsburgh and Youngstown districts.

An advance of \$1 has been made in semifinished steel, with talk of premiums in the Youngstown and Pittsburgh districts.

The recent \$2 rise in all grades of sheets, excepting full finished, receives reinforcement by the adherence of the leading producer.

Wire products makers have reaffirmed current prices for the second quarter, which is tantamount to an increase of \$2 because of the large carryover of fourth quarter business.

### Pig Iron

A slight increase is noted in inquiry for pig iron, for second quarter, at Pittsburgh, although the market still lacks briskness from the standpoint of new business.

Activity in production and shipments is maintained, with recent reports repeated as to the movement on contracts exceeding output.

Furnaces continue to receive occasional orders for a few carloads for filling in, and on such business no change is shown in prices.

A recent sale of a substantial tonnage of No. 2 foundry iron indicates \$17.50 base, valley, is minimum, although a little has been placed at a higher figure.

Furnace stocks of northern pig iron are being further reduced at Chicago. Sellers are acquiring heavier order books for second quarter, some estimates being that close to 65 per cent of the generally accepted normal quarter's tonnage has been ordered for that period.

Indications are that all large melters will have covered for second quarter within another week.

Numerous orders now are being booked for March shipment, supplementary to first quarter contracts. February shipments are practically equal to those of January for furnaces in this district.

### Non-Ferrous

Heavy buying sent the prices of copper and lead up again in the past week. Other metals remained unchanged, with buying of a routine nature. Zinc and tin continued remarkably steady, while antimony, which also was in this class, dropped a little on account of quietness. Nickel and aluminum were firm. Consumption of all metals was unusually large.

Brass and copper products followed the first rise in the copper market quickly. Brass and nickel silver went up  $\frac{1}{4}$  cent, copper wire  $\frac{1}{4}$  cent, other copper products  $\frac{3}{8}$  cent, except seamless copper tubing, which advanced  $\frac{1}{2}$  cent. These increases reflect not only the strength of the copper market, but the growing volume of business in products. Mill order books seldom have been so well filled.

### Copper

Buying picked up in the past week. The price remained at 18c,

Connecticut, until Monday noon, when it became 18.25c. Buying was extremely large at the new price, with orders running into June, and paved the way for the second rise to 18.50c, Connecticut, on Tuesday.

Export business also has been large in the past few days and the price was increased to 18.50c Tuesday. Every indication promises that the copper market will remain extremely tight all through the first half of the year.

Shipments are going as rapidly as the refineries are able to get them out. There is talk about copper going as high as 20c, and the one question on the horizon is, what will happen to the price in case business at large has its seasonal let-down in the summer?

### Tin

Buying by consumers has been of large size on only one day in the past week. The price has been unusually steady around 49c.

Speculation in tin is unusually light. Consumption probably is larger than ever before, but output provides abundant supplies. Spot and futures continue to sell at one price.

### Zinc

Prime western continues to sell at 6.35c, East St. Louis, but business is of a routine nature.

The steady way in which buying is done results in the volume attracting less attention than might otherwise be the case.

### Lead

Buying of lead has been unusually large in the past week. Prices have been strong, with St. Louis market getting close to New York, and the latter having some premium prices.

Some users have had difficulty in getting all the lead they want for March shipment. The New York market has been unusually independent of the London price lately on account of the big demand here.



## The STANDARD CODE Computing Rule



Adapted  
from Article Three 5th Edition

### of the STANDARD CODE

MARCH 1, 1928

Simple to Operate

THE Computing Rule is not a novelty, but, a well designed mathematical device, for figuring leader pipe and register areas for warm air heating systems. It has proven its accuracy in estimating and has passed the experimental stage. It is operated similar to an Engineer's slide rule.

The complete instructions are easily understood. You can learn to operate the Rule in less than one hour.

Results can be had without a single Division, Multiplication or Addition problem, as required in Article Three of the Standard Code. Not a chance for a mathematical error.

"Remember, you do not have to refer to a lot of loose parts or awkward tables."

Simplifies accurate estimating.

### Handy Pocket Size

RULES are  $5\frac{1}{2}$  inches in diameter— $\frac{1}{8}$  inch thick. Has an upper and lower revolving disc with a hairline indicating arm.

It is made of extra heavy and specially prepared celluloid, which reduces shrinkage and warping to a minimum. It is washable and unbreakable.

Can be carried comfortably in your pocket.

### Here Is What The Computing Rule Will Determine:

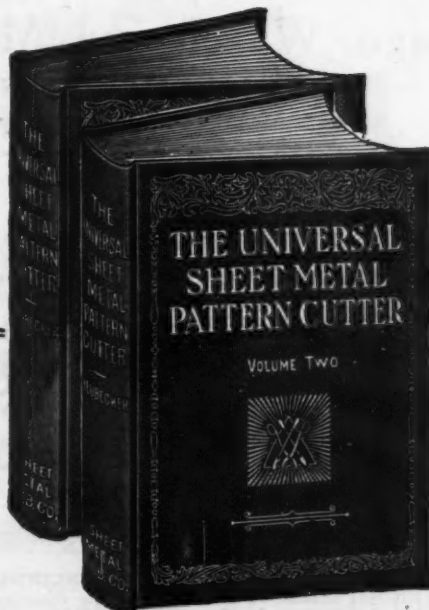
- 1 The warm air pipe and register areas for First, Second and Third floor rooms.
- 2 The areas necessary for 70° inside temperature when the outside temperatures are ZERO, 10, 30 and 30 degrees ABOVE or BELOW zero.
- 3 The areas from the Contents, Glass, Wall, Roof and Ceiling. The factors as covered in Table "A" are represented in accurate form.
- 4 The areas for rooms having One, One and One-half and Two air changes per hour.
- 5 The Unusual Exposure requirements as the 10% for East and West and 15% for Northeast, North and Northwest rooms.

"Absolute Correct Results"

Price, \$3.00—Postpaid

AMERICAN ARTISAN

620 South Michigan Avenue  
CHICAGO, ILLINOIS



## Over 500 Practical and Shortened Demonstrations and Several Thousand Methods, Illustrated by 1400 Engravings, Are Contained in These Two Books

These famous books are a possession of incalculable value to every man who seeks more profit as a sheet metal worker, whether as draftsman, mechanic, foreman or master. They provide a life's companionship for the thrifty, practical and ambitious; they ease the rough places; lessen drudgery and perplexity; save time, labor and material; insure against inaccuracy and "falling down" in the real emergencies of the daily work.

### Containing Everything in Pattern Cutting and Working Sheet Metal

The safe, direct, up-to-date, labor-saving method of developing patterns and performing the incidental operations of sheet metal work of every description will be found in

### THE UNIVERSAL SHEET METAL PATTERN CUTTER

Volumes One and Two

Embracing 23 Departments Illustrated by 1400 Engravings Showing Large and Legible Patterns and Working Diagrams Pertaining to Each Subject. Accompanied by Perspective Views of All Objects and Examples of Work in the Completed Form.

### Sold Independently

VOLUME ONE—Practical and Shortened Methods of Developing the Patterns for All Forms of Elbows; Heating Ventilation; Blower and Exhaust Piping Connections and Fittings; Marine Sheet Metal Work; Automobile Sheet Metal Work; Special Short Rules in Pattern Drafting; Heavy Gauge Sheet Metal Work; Machinery and Belt Guards; Laying Out Full Size Patterns to Means of Reduced Drawings; Mensuration Applied to Sheet Metal Work, etc., with Many Features of Construction and Labor-Saving Expedients.

Containing 330 Double Column Quarto Pages, Size 9x12 inches, Illustrated by 680 Engravings, Substantially Bound in Cloth. Price.....\$7.50

VOLUME TWO—Architectural Sheet Metal Work. A Treatise on Drawing, Full Size Detailing and Lettering; Practical and Shortened Methods of Laying Out and Constructing all Types of Sheet Metal Cornices and Skylights; Leaders; Roof Gutters and Conductor Offsets; Moldings; Miters; Pediments; Copings; Finials; Circular Work; Dormer and Bay Windows; Sheet Metal Ornamentation; Electrically Illuminated Signs; Hollow Metal Windows, Frames and Fire Doors; Various Forms of Metal Roofing, etc.; Reading Plans and the Method of Estimating Sheet Metal Items and Quantities in Building Construction.

Containing 400 Double Column Quarto Pages, Size 9x12 inches, Illustrated by 711 Engravings, Substantially Bound in Cloth. Price.....\$7.50

SOLD BY BOOK DEPT.

AMERICAN ARTISAN

620 South Michigan Ave.

CHICAGO

# Chicago Warehouse Metal and Furnace Supply Prices

AMERICAN ARTISAN is the only publication containing Western Metal, Furnace Supply and Hardware prices corrected weekly

## METALS

### FIG IRON

Chicago Fdy., No. 2	.....	\$20 00
Southern Fdy. No. 2	.....	22 51 to 23 01
Lake Superior Charcoal	.....	27 04
Malleable	.....	20 00

### FIRST QUALITY BRIGHT CHARCOAL TIN PLATES

IC 20x28 112 sheets	.....	\$22 50
IX 20x28	.....	25 50
XXX 20x28 56 sheets	.....	14 50
XXXX 20x28	.....	15 50
XXXXX 20x28	.....	17 00

### TERNE PLATES

IC 20x28, 40-lb. 112 sheets	.....	\$26 70
IX 20x28, 40-lb. 112 sheets	.....	29 70
IC 20x28, 25-lb. 112 sheets	.....	22 20
IX 20x28, 25-lb. 112 sheets	.....	25 20
IC 20x28, 20-lb. 112 sheets	.....	20 25
IV 20x28, 20-lb. 112 sheets	.....	23 00

### "ARMCO" INGOT IRON PLATES

No. 8 ga.—100 lbs.	.....	\$4 15
3/16 in.—100 lbs.	.....	4 05
1/2 in.—100 lbs.	.....	8 85

### COKE PLATES

Cokes, 80 lbs., base, 20x28	.....	\$12 00
Cokes, 90 lbs., base, 20x28	.....	12 20
Cokes, 100 lbs., base, 20x28	.....	12 40
Cokes, 107 lbs., base, IC	.....	12 75
20x28	.....	12 75
Cokes, 125 lbs., base, IX	.....	14 75
20x28	.....	14 75
Cokes, 155 lbs., base, 2X,	.....	8 50
56 sheets	.....	9 35
Cokes, 175 lbs., base 3X,	.....	10 25
56 sheets	.....	10 25
Cokes, 195 lbs., base 4X,	.....	10 25
56 sheets	.....	10 25
BLUE ANNEALED SHEETS	.....	
Base 10 ga.—per 100 lbs.	.....	\$3 35
"Armco" 10 ga.—per 100 lbs.	.....	4 15

### ONE PASS COLD ROLLED BLACK

No. 18-20	.....	per 100 lbs. \$3 50
No. 22	.....	per 100 lbs. 3 75
No. 24	.....	per 100 lbs. 3 80
No. 26	.....	per 100 lbs. 3 90
No. 27	.....	per 100 lbs. 3 95
No. 28	.....	per 100 lbs. 4 05
No. 29	.....	per 100 lbs. 4 20
No. 30	.....	per 100 lbs. 4 30

### "ARMCO" GALVANIZED

"Armco" 24	.....	per 100 lbs. \$6 15
------------	-------	---------------------

### GALVANIZED

No. 18	.....	per 100 lbs. \$4 15
No. 18	.....	per 100 lbs. 4 30
No. 20	.....	per 100 lbs. 4 45
No. 22	.....	per 100 lbs. 4 60
No. 24	.....	per 100 lbs. 4 65
No. 26	.....	per 100 lbs. 4 90
No. 27	.....	per 100 lbs. 5 00
No. 28	.....	per 100 lbs. 5 15
No. 30	.....	per 100 lbs. 5 55

### BAR SOLDER

Warranted 50x50	.....	per 100 lbs. \$31 00
Commercial 45-55	.....	per 100 lbs. 28 50
Plumbers	.....	per 100 lbs. 26 00

### ZINC

In Slabs	.....	\$ 7 25
SHEET ZINC	.....	
Cask Lots (600 lbs.)	.....	\$11 25
Sheet Lots	.....	12 25

### BRASS

Sheets, Chicago Base	.....	22 1/2 c
Mill base	.....	22 1/2 c
Tubing, brazed base	.....	27 1/2 c
Wire, base	.....	23 c
Rods, base	.....	20 1/2 c

### COPPER

Sheets, Chicago base	.....	27 1/2 c
Mill base	.....	26 1/2 c
Tubing, seamless base	.....	28 1/2 c
Wire, plain rd., 8 B. & S. Ga.	.....	24 1/2 c
and heavier	.....	24 1/2 c

### LEAD

American Pig	.....	\$7 50
Bar	.....	8 50

### TIN

Pig Tin	.....	per 100 lbs. \$53 00
Bar Tin	.....	per 100 lbs. 50 00

## HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

### ASBESTOS

Paper up to 1/16	.....	6c per lb.
Roll board	.....	6 1/2 c per lb.
Mill board 3/32 to 1/4	.....	6c per lb.
Corrugated Paper (250 sq. ft. to roll)	.....	\$6 00 per roll

### BRUSHES

Furnace Pipe Cleaning Bristle with handle	.....	each \$0 75
Flue Cleaning Steel only, each	.....	1 25

### CEMENT, FURNACE

American Seal, 5-lb. cans, net	.....	\$ 45
American Seal, 10-lb. cans, net	.....	85
American Seal, 25-lb. cans, net	.....	2 25
Pecora	.....	per 100 lbs. 7 50

### CHIMNEY TOPS

Adams' Revolving	Wt. Doz.	Price Doz.
4 in.	21 lbs.	\$11 00
6 in.	24 lbs.	11 50
7 in.	30 lbs.	12 50
8 in.	33 lbs.	15 00
9 in.	51 lbs.	16 50
10 in.	56 lbs.	18 00
12 in.	66 lbs.	22 00
14 in.	110 lbs.	36 00

### CLINKER TONGS

Each	.....	\$1 50
------	-------	--------

### CLIPS

Damper No-Rivet Steel, with tail pieces, per gross	.....	\$9 50
Rivet Steel, with tail pieces, per gross	.....	7 50
Tail pieces, per gross	.....	2 40

### COPPERS—Soldering Pointed Roofing

3 lb. and heavier	.....	per lb. 40c
2 1/2 lb.	.....	per lb. 45c
2 lb.	.....	per lb. 45c
1 1/2 lb.	.....	per lb. 55c
1 lb.	.....	per lb. 60c

### CORNICE BRAKES

Chicago Steel Bending Nos. 1 to 6B	.....	Net
------------------------------------	-------	-----

### CUT-OFFS

Gal., plain, round or cor. rd.	.....	
26 gauge	.....	30%
28 gauge	.....	35%

### DAMPERS

"Yankee" Hot Air	.....	
7 inch, each 20c, doz.	.....	\$1 60
8 inch, each 25c, doz.	.....	2 20
9 inch, each 30c, doz.	.....	2 60
10 inch, each 32c, doz.	.....	2 80
Smoke Pipe	.....	
7 inch, doz.	.....	\$1 60
8 inch, doz.	.....	2 20
9 inch, doz.	.....	3 00
10 inch, doz.	.....	3 75
12 inch, doz.	.....	4 60

### ADAMS No. 1 CHECK

Check and Collar Complete	.....	
8 inch, each	.....	2 00
9 inch, each	.....	2 25
End Check Only	.....	
8 inch, each	.....	1 60
9 inch, each	.....	1 85
Collar Only	.....	
8 inch, each	.....	50
9 inch, each	.....	65

### No. 2 CHECK

8 inch, each	.....	1 00
9 inch, each	.....	1 00
10% Disc. on Adams No. 1 and No. 2 Check	.....	
Diamond Smoke Pipe	.....	
7 inch, doz.	.....	\$2 00
8 inch, doz.	.....	3 20
9 inch, doz.	.....	4 80
10 inch, doz.	.....	6 00

### Adams' Sheet Metal

7 inch, doz.	.....	\$1 60
8 inch, doz.	.....	2 20
9 inch, doz.	.....	2 60
10 inch, doz.	.....	3 80
12 inch, doz.	.....	3 50
14 inch, doz.	.....	5 00

### EAVES TROUGH

Galv. Crimpedge, crated 75 & 10%	.....	
Zinc, "Barnes"	.....	60%

### ELBOWS

Conductor Pipe	.....	
Galv. plain or corrugated, round flat Crimp,	.....	
28 Gauge	.....	60%
26 Gauge	.....	45%
24 Gauge	.....	15%

### Galv. Terne Steel

Plain Rd. and Rd. Corr.	.....	
28 Ga.	.....	60%
26 Ga.	.....	45%
24 Ga.	.....	15%

### Square Corrugated

No. 28 Gauge	.....	50%
26 Gauge	.....	35%

### Portico Elbows

Standard Gauge Conductor Pipe, plain or corrugated.	.....	
Not nested	.....	70 & 5%
Nested Solid	.....	70 & 5%

### Sq. Corr., A. & B. & Octagon

28 Ga.	.....	50%
26 Ga.	.....	35%

### Portico

1", 1 1/4", 1 1/2"	.....	45%
--------------------	-------	-----

### Copper

16 oz., all designs	.....	50%
---------------------	-------	-----

### Zinc

All styles	.....	60%
------------	-------	-----

### ELBOWS—Stove Pipe

1-piece Corrugated, Uniform Blue "Milcor" No. 28 Gauge.	.....	Doz.
5-inch	.....	\$1 15
6-inch	.....	1 25
7-inch	.....	1 75

### Special Corrugated

6-inch	.....	\$1 00
7-inch	.....	1 60

### Adjustable—Uniform Blue

"Milcor" No. 28 Gauge. Uniform Blue.	.....	
5-inch	.....	\$1 60
6-inch	.....	1 75
7-inch	.....	2 10

### WOOD FACES—60% off list.

### FENCE

726-6-12 1/4 (100 rods)	.....	\$28 63
1948-6-14 1/4 (100 rods)	.....	43 62

### FILES AND RASPS

Heller's (American)	.....	50-10%
American	.....	60-10%
Arcade	.....	50%
Black Diamond	.....	50%
Eagle	.....	50%
Great Western	.....	50%
Kearney & Foot	.....	50%
McClellan	.....	50%
Nicholson	.....	50%
Simonds	.....	60%

### FIRE POTS

Geo. W. Diener Mfg. Co.	.....	Ma.
No. 02 Gasoline Torch, 1 qt.	.....	\$ 5 13
No. 9250, Kerosene, or Gasoline Torch, 1 qt.	.....	6 50
No. 10 Tinner's Furn. Square tank, 1 gal.	.....	11 20
No. 15 Tinner's Furn. Round tank, 1 gal.	.....	10 70
No. 21 Gas Soldering Furnace	.....	8 60
No. 110 Automatic Gas Soldering Furnace	.....	10 50
Quick Meal Stove Co. Vesuvius, F. O. B. St. Louis	.....	30%
(Extra Disc. for large quantities.)	.....	

### GALVANIZED WARE

Pails (Galv. after made), 10-qt.	.....	\$3 00
Tubs (Galv. after made), No. 1	.....	5 75
No. 2	.....	6 50

### GLASS

Single Strength, A, all brackets	.....	37%
Single Strength, B, all brackets	.....	38-5%
Double Strength, A, all brackets	.....	37%
Double Strength, B, all brackets	.....	38-5%

### HANGERS

Conductor Pipe	.....	
Milcor Perfection Wire	.....	25%
Milcor Triplex Wire	.....	10%
Eaves Trough	.....	
Milcor Steel (galv. after forming) List	.....	plus 13 1/4%
Milcor Selflock E. T. Wire, List	.....	plus 50%

### HOOKS

Conductor "Direct Drive" Wrought Iron for wood or brick	.....	15%
---	-------	-----

### HUMIDIFIER

"Front-Rank," Automatic	.....	
In single lots	.....	50%
In lots of 10 or more	.....	50-5%
In lots of 25 or more	.....	50-10%
Vapor pans, etc., each	.....	50%

### LIFTERS

Stove Cover	.....	
Coppered	.....	per gro. \$6 00
Alaska	.....	per gro. 4 75

### MALLETS

Tinners Hickory	.....	per doz. \$3 25
-----------------	-------	-----------------

### MITRES

Galvanized steel mitres	.....	
28 Ga.	.....	70
26 Ga.	.....	60-30

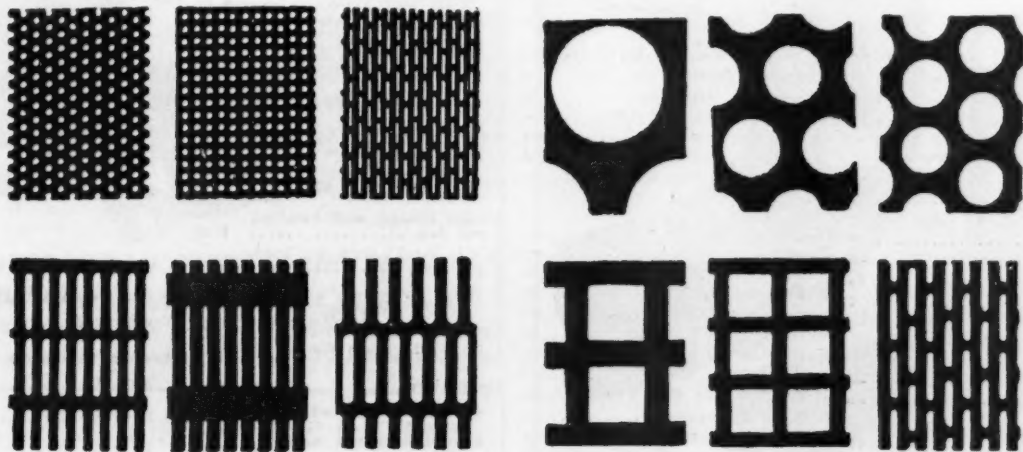
### NAILS

Cut Steel, base	.....	\$4 00
Wire	.....	
Common	.....	\$3 10
Cement Coated	.....	8 10

(Continued on page 32)



## PERFORATED METALS



All Sizes and Shapes of Holes in all Kinds and Thicknesses of Metal.

Punched Metal Grilles, Register Faces, Ventilators, etc.

Guard Material for Machines and Belts. We supply a complete line of Accessories

Screens for Grain, Minerals or anything to be screened.

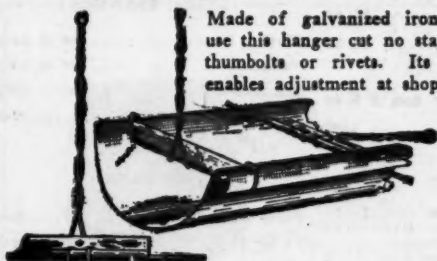
Perforated Tin and Brass always in stock

## THE HARRINGTON & KING PERFORATING CO.

5649 FILLMORE STREET, CHICAGO, ILLINOIS, U. S. A.

New York Office: 114 Liberty Street

### A Revolution In Gutter Hanging



Made of galvanized iron or copper. To use this hanger cut no stays, use no solder, thumbolts or rivets. Its hinge movement enables adjustment at shop. Nothing to do at building but drive nail. Make joints in the bead of gutter with hanger adjusted without catching under

the eaves. Stay wire being adjustable, it will hang any kind of hanging eave trough, OG or Box Gutter.

Made in sizes 3, 3½, 4, 4½, 5, 6, 7, 8 and 10 inches.

Packed 1 gross in a package.

THE HORAN STAY HANGER CO., Louisville, Ky.

### The NEW IMPROVED "STANDARD"

#### Rotable Ventilator

Now made of Armco Iron

This favorite cone-shaped ventilator is now improved in several important points.

The weight of the ventilator body is now carried on a concave thrust bearing nested in the apex of the conical body. This bearing turns upon the pivot point of the stationary center spindle.

The bronze Guide Bushings are now made of non-corrosive bronze which minimizes friction and any tendency to screech when body is rotating.

There are other new features. Write today for new catalog and price list.



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STANDARD VENTILATOR CO., Lewisburg, Pa.

## RYERSON SHEETS

IMMEDIATE SHIPMENT FROM STOCK

More than twenty kinds of Prime quality sheets are carried in stock. There is a special sheet for every purpose. Also Bars, Angles, Rivets, Bolts, Tools and Metal-Working Machinery. Write for Journal and Stock List.

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Chicago Milwaukee Jersey City Boston Detroit St. Louis Cincinnati Cleveland Buffalo

Read the Wants and Sales Pages

### TREADLE SHEAR



This TREADLE GAP SHEAR is made in all standard sizes for No. 14 and lighter gauge sheets. With it, sheets can be squared, trimmed or slit.

We make a complete line of shears, punches and bending rolls, all sizes for hand or belt drive. Write for Catalog "S."

BERTSCH & COMPANY Cambridge City, Ind.



Send for catalog today

## VIKING SHEAR

Compound LEVER Handle—Removable Blades

A child can work them

VIKING SHEAR CO., Erie, Pa.



## ADVERTISERS' INDEX

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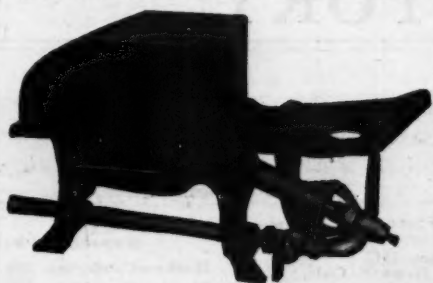
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PASTE		RIDGE ROLL	
Asbestos Dry Paste:		Galv., Plain Ridge Roll, b'd'd.....	75-15-5%
200-lb. barrel.....	\$14 00	Galv., Plain Ridge Roll crated.....	75-15%
100-lb. barrel.....	7 50		
50-lb. pail.....	4 35		
10-lb. bag.....	1 00		
5-lb. bag.....	55		
2½-lb. cartons.....	25		
POKERS, FURNACE		SCREWS	
Each.....	\$0 75	Sheet Metal	
POKERS, STOVE		7, ½x¼, per gross.....	\$0 53
Nickel Plated, coil handles, per doz.....	1 10	No. 10, ¾x3/16, per gross.....	63
W'r't Steel, str't or bent, per doz.....	\$0 75	No. 14, ¾x¼, per gross.....	33
PIPE		SHEARS, TINNERS' & MACHINISTS'	
Conductor		Viking.....	\$33 00
Cor. Rd., Plain Rd., or Sq.		Lennox Threadless	
Galvanized		No. 18.....	35%
Crated and nested (all gauges).....	75-7½%	Shear blades.....	10%
Crated and not nested (all gauges).....	75-2½%	(f. a. b. Marshalltown, Iowa)	
Furnace Pipe		SHIELDS, ADJUSTABLE RADIATOR	
Double Wall Pipe and Fittings.....	60%	No. 1 "Gem" 11" to 17"....	30%
Single Wall Pipe, Round Galvanized Pipe.....	60%	No. 2 "Gem" 14" to 24"....	30%
Galvanized and Tin Fittings.....	60%	No. 3 "Gem" 35" to 65"....	30%
Lead		SHOES	
Per 100 lbs.....	\$12 50	Galv. 28 Gauge, Plain or corrugated round flat crimp.....	60%
Stove Pipe		26 gauge round flat crimp.....	45%
"Milcor" "Titelock" Uniform Blue Stove		24 gauge round flat crimp.....	15%
28 gauge, 5 inch U. C. nested.....	11 00	SNIPS, TINNERS	
28 gauge, 6 inch U. C. nested.....	13 00	Clover Leaf.....	40 & 10%
28 gauge, 7 inch U. C. nested.....	14 00	National.....	40 & 10%
30 gauge, 5 inch U. C. nested.....	10 35	Star.....	50%
30 gauge, 6 inch U. C. nested.....	11 00	Milcor.....	Net
30 gauge, 7 inch U. C. nested.....	13 00	SQUARES	
T-Joint Made up		Steel and Iron.....	Net
6-inch, 28 ga....per doz. \$ 3 40		(Add for bluing \$3 per doz. net)	
All Size		Mitre.....	Net
No. 11, all styles.....	60%	Try.....	Net
PULLEYS		Try and Bevel.....	Net
Furnace Tackle....per doz. \$0 85		Try and Mitre.....	Net
.....per gro. 8 50		Fox's.....	per doz. \$6 00
Furnace Screw (enameled).....	75	Winterbottom's.....	10%
PUTTY		STOPPERS, FLUE	
Commercial Putty, 100-lb. Kits.....	\$3 50	Common.....	per doz. \$1 10
QUADRANTS		Gem, No. 1.....	per doz. 1 10
Malleable Iron Damper.....	10%	Gem, flat, No. 3.....	per doz. 1 30
REDUCERS—Oval Stove Pipe		VENTILATORS	
Per Doz.		Standard.....	30 to 40%
7-6, 28-gauge, 1 doz. in carton.....	\$2 00	WIRE	
REGISTERS AND BORDERS		Black annealed wire, No. 9, per 100 lbs.....	\$3 30
Baseboard, Floor and Wall		Galvanized barb wire, per 100 lbs.....	3 30
Cast Iron.....	20%	Cattle Wire—galvanized catch weight spool, per 100 lbs.....	3 30
Steel and Semi-Steel.....	33½%	Galvanized Plain Wire, No. 9, per 100 lbs.....	3 25
Baseboard, 1 piece.....	33½-20%		
Baseboard, 2 piece.....	33½%		
Wall.....	33½%		
Adjustable Ceiling Ventilators.....	33½%		
Register Faces—Cast and Steel			
Japanned, Bronzed and Plated, 4x6 to 14x14.....	33½%		
Large Register Faces—Cast, 14x14 to 38x42.....	50%		
Large Register Faces—Steel, 14x14 to 38x42.....	60%		
Ventilating Register			
Per gross.....	\$ 00		
Small, per pair.....	30		
Large, per pair.....	50		

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**EFFICIENT  
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"QUAKER CITY" MITRES, ENDS, CAPS AND OUTLETS  
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Style A

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Style B



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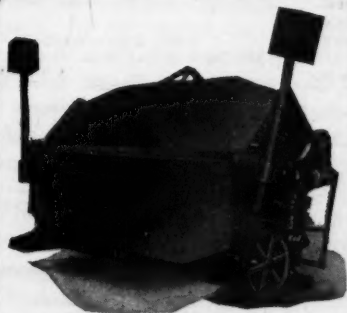
- Asbestos Liquid.**  
B. & F. Mfg. Co., Des Moines, Ia.  
Acetylene (Gas) Dissolved.  
Prest-O-Lite Co., Inc.,  
New York, N. Y.
- Benches—Steel**  
Maplewood Machinery Co.,  
Chicago, Ill.
- Bolts—Stove.**  
The Kirk-Latty Co.,  
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Lamson & Sessions Co.,  
Cleveland, Ohio  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.
- Brakes—Bending.**  
Dreis & Krump Mfg. Co.,  
Chicago, Ill.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.
- Brakes—Cornice.**  
Dreis & Krump Mfg. Co.,  
Chicago, Ill.
- Brass and Copper.**  
American Brass Co.,  
Waterbury, Conn.  
Copper & Brass Research As-  
sociation, New York
- Cans—Garbage.**  
Osborn Co., The J. M. & L. A.,  
Cleveland, Ohio
- Castings—Malleable.**  
Fanner Mfg. Co., Cleveland, Ohio
- Ceilings—Metal.**  
Friedley-Voshardt Co.,  
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Milwaukee Corrugating Co.,  
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Wheeling Corrugating Co.,  
Wheeling, W. Va.
- Chaplets.**  
Fanner Mfg. Co., Cleveland, Ohio
- Chimney Tops.**  
Standard Ventilator Co.,  
Lewisburg, Pa.
- Clinker Tongs.**  
L. J. Mueller Furnace Co.,  
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Stover Mfg. & Engine Co.,  
Freeport, Ill.
- Copper.**  
American Brass Co.,  
Waterbury, Conn.  
Copper & Brass Research As-  
sociation, New York
- Cornices.**  
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- Cutting Blowpipes.**  
Oxweld Acetylene Co.,  
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- Cut-offs—Rain Water.**  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City
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Mil., Ch'go, La Crosse, Kan. City  
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Parker-Kalon Corp.,  
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Stover Mfg. & Engine Co.,  
Freeport, Ill.
- Damper Regulators.**  
National Regulator Co.,  
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H. M. Sheer Co.,  
Quincy, Ill.  
Thermo-Control Regulator Co.,  
Youngstown, Ohio
- Dies—Punch & Press.**  
La Salle Machine Works,  
Chicago, Ill.
- Diffuser—Air Duct.**  
Acelus-Dickinson Co., Chicago, Ill.  
L. J. Mueller Furnace Co.,  
Milwaukee, Wis.
- Doors—Metal.**  
Lupton's Sons Co., David,  
Philadelphia, Pa.
- Drive Screws—Hardened Metalle.**  
Parker-Kalon Corp.,  
200 Varick St., New York
- Eaves Trough.**  
Barnes Metal Products Co.,  
Chicago, Ill.  
Berger Bros. Co.,  
Philadelphia, Pa.  
Berger Co., L. D.,  
Philadelphia, Pa.  
Lupton's Sons Co., David,  
Philadelphia, Pa.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City  
New Jersey Zinc Sales Co., The,  
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Wheeling Corrugating Co.,  
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Dieckmann Co., Ferdinand,  
Cincinnati, Ohio  
Lupton's Sons Co., David,  
Philadelphia, Pa.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City
- Wood Faces—Warm Air.**  
Auer Register Co., Cleveland, Ohio  
American Wood Register Co.,  
Plymouth, Ind.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City
- Fittings—Conductor.**  
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Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City
- Flanges.**  
Chicago Metal Mfg. Co.,  
Chicago, Ill.
- Fittings—Steel Pipe.**  
Chicago Metal Mfg. Co.,  
Chicago, Ill.
- Flue Thimbles.**  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City
- Furnace Cement—Asbestos.**  
Connors Paint Mfg. Co., Wm.,  
Troy, N. Y.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City
- Furnace Cement—Liquid.**  
Technical Products Co.,  
Pittsburgh, Pa.
- Furnace Cleaners—Section.**  
Brillion Furnace Co., Brillion, Wis.
- Furnace Coloring (Enamel).**  
B & F Mfg. Co., Des Moines, Iowa
- Furnace Fans.**  
A-C Mfg. Co., Pontiac, Ill.  
Canton Furnace & Mfg. Co.,  
Canton, Ohio  
A. H. Robinson Co.,  
Massillon, Ohio  
Warm Air Furnace Fan Co.,  
The, Cleveland, Ohio  
Williamson Heater Co.,  
Cincinnati, Ohio
- Furnace Fuse.**  
National Regulator Co.,  
Chicago, Ill.
- Furnace Regulators.**  
National Regulator Co.,  
Chicago, Ill.  
H. M. Sheer Co.,  
Quincy, Ill.  
Thermo-Control Regulator Co.,  
Youngstown, Ohio
- Furnace Rings.**  
Forest City-Walworth Run  
Foundries Co., Cleveland, Ohio  
Milwaukee Corrugating Co.,  
Milwaukee, Wis.
- Furnaces—Gas.**  
Calkins & Pearce, Columbus, Ohio  
Mueller Furnace Co., L. J.,  
Milwaukee, Wis.
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Gadsden, Ala.  
American Furnace Co.,  
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Beckwith Co., The,  
Dowagiac, Mich.  
Brillion Furnace Co., Brillion, Wis.  
Canton Furnace & Mfg. Co.,  
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Emrich Co., C., Columbus, Ohio  
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Floral City Heater Co.,  
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- Henry Furnace & Fdy. Co.,**  
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Homer Furnace Co.,  
Coldwater, Mich.  
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Marshalltown, Ia.; Syracuse, N. Y.  
Magirl Foundry & Furnace Co.,  
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May-Fieberger Furnace Co.,  
Newark, Ohio  
Marshall Furnace Co.,  
Marshall, Mich.  
Meyer Furnace Co., The, Peoria, Ill.  
Midland Furnace Co.,  
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Mt. Vernon, Ill.  
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Premier Warm Air Heater Co.,  
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Robinson Co., A. H.,  
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Rybolt Heater Co., Ashland, Ohio  
Schwab & Sons Co., R. J.,  
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Success Heater Mfg. Co.,  
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Thatcher Co.,  
Chicago, Ill.  
XXth Century Heating & Venti-  
lating Co., Akron, Ohio  
Waterman-Waterbury Co.,  
Minneapolis, Minn.  
Western Steel Products Co.,  
Duluth, Minn.  
Williamson Heater Co.,  
Cincinnati, Ohio  
Wise Furnace Co.,  
Akron, Ohio
- Gas (Acetylene) Dissolved.**  
Prest-O-Lite Co., Inc.,  
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- Gas (Nitrogen).**  
Linde Air Products Co.,  
New York, N. Y.
- Gas (Oxygen).**  
Linde Air Products Co.,  
New York, N. Y.
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Lupton's Sons Co., David,  
Philadelphia, Pa.
- Grilles.**  
Auer Register Co., Cleveland, Ohio  
Harrington & King Perforating  
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Hart & Cooley Co.,  
New Britain, Conn.  
Independent Reg. Co.,  
Cleveland, Ohio  
Tuttle & Bailey Mfg. Co.,  
Chicago, Ill.
- Grilles—Stove Front.**  
Tuttle & Bailey Mfg. Co.,  
Chicago, Ill.
- Guards—Machine and Belt.**  
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Chicago, Ill.
- Handles—Boiler.**  
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- Handles—Soldering Iron.**  
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- Hangers—Eaves Trough.**  
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Horan Stay Hanger Co.,  
Louisville, Ky.  
Lupton's Sons Co., David,  
Philadelphia, Pa.  
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American Foundry & Furnace Co.,  
Bloomington, Ill.
- Heat Regulation Systems.**  
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Chicago, Ill.  
Thermo-Control Regulator Co.,  
Youngstown, Ohio
- Heaters—Cabinet.**  
Fox Furnace Co., Elyria, Ohio  
Mueller Furnace Co., L. J.,  
Milwaukee, Wis.  
Waterman-Waterbury Co.,  
Minneapolis, Minn.
- Heaters—School Room.**  
Floral City Heater Co.,  
Monroe, Mich.  
Meyer Furnace Co., The,  
Peoria, Ill.  
L. J. Mueller Furnace Co.,  
Milwaukee, Wis.  
Waterman-Waterbury Co.,  
Minneapolis, Minn.
- Hooks—Conductor.**  
Berger Co., L. D.,  
Philadelphia, Pa.
- Hotels**  
Fort Shelby Hotel, Detroit, Mich.
- Humidifiers.**  
Automatic Humidifier Co.,  
Cedar Falls, Iowa  
Chandler Pump Co.,  
Cedar Rapids, Iowa  
L. J. Mueller Furnace Co.,  
Milwaukee, Wis.  
Salada Mfg. Co.,  
Minneapolis, Minn.
- Lath—Expanding Metal.**  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City
- Machines—Crimping**  
Bertsch & Co.,  
Cambridge City, Ind.
- Machinery—Culvert.**  
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Cambridge City, Ind.
- Machines—Tinmith's.**  
Bertsch & Co.,  
Cambridge City, Ind.  
Dreis & Krump Mfg. Co.,  
Chicago, Ill.  
Interstate Machinery Co.,  
Chicago, Ill.  
La Salle Machine Works,  
Chicago, Ill.  
Maplewood Machinery Co.,  
Chicago, Ill.  
Marshalltown Mfg. Co.,  
Marshalltown, Iowa  
Osborn Co., The J. M. & L. A.,  
Cleveland, Ohio  
Peck, Stow & Wilcox Co.,  
Southington, Conn.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.  
Unishear Co., New York, N. Y.
- Mandrels.**  
Hyro Mfg. Co., New York, N. Y.
- Metals—Perforated.**  
Harrington & King Perforating  
Co.,  
Chicago, Ill.
- Miters.**  
Friedley-Voshardt Co.,  
Chicago, Ill.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City
- Miters—Eaves Trough.**  
Barnes Metal Products Co.,  
Chicago, Ill.  
Lupton's Sons Co., David,  
Philadelphia, Pa.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City
- Nails—Hardened Masonry.**  
Parker-Kalon Corp.,  
New York, N. Y.
- Nitrogen (Gas).**  
Linde Air Products Co.,  
New York, N. Y.
- Oil Burners.**  
McIlvaine Burner Corp.,  
Evanston, Ill.  
Northern Oil Burner Co.,  
Minneapolis, Minn.
- Ornaments—Sheet Metal.**  
Friedley-Voshardt Co.,  
Chicago, Ill.  
Geroch Bros. Mfg. Co.,  
St. Louis, Mo.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City
- Oxygen (Gas).**  
Linde Air Products Co.,  
New York, N. Y.
- Paint.**  
Connors Paint Mfg. Co., Wm.,  
Troy, N. Y.
- Patterns—Furnace and Stove.**  
Cleveland Castings Pattern Co.,  
Cleveland, Ohio  
Quincy Pattern Co., Quincy, Ill.  
Vedder Pattern Works,  
Troy, N. Y.

(Continued on page 36)



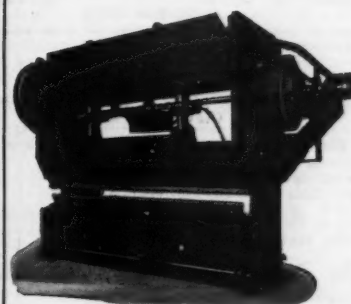
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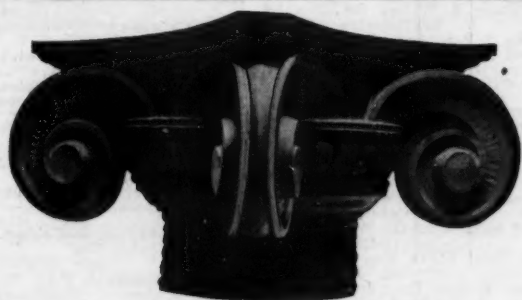
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(Continued from page 34)

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Lamneck Co., W. E.,  
Columbus, Ohio  
Meyer & Bro. Co., F., Peoria, Ill.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City  
Mueller Furnace Co., L. J.,  
Milwaukee, Wis.  
Osborn Co., The J. M. & L. A.,  
Cleveland, Ohio

**Pipe and Fittings—Stove.**

Meyer & Bro. Co., F., Peoria, Ill.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City

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Barnes Metal Products Co.,  
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Berger Bros. Co.,  
Philadelphia, Pa.  
Chicago Metal Mfg. Co.,  
Chicago, Ill.  
Dieckmann Co., Ferdinand,  
Cincinnati, Ohio  
Friedley-Voshardt Co.,  
Chicago, Ill.  
Lupton's Sons Co., David,  
Philadelphia, Pa.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City  
New Jersey Zinc Sales Co., The,  
New York, N. Y.  
Wheeling Corrugating Co.,  
Wheeling, W. Va.

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Chicago, Ill.

**Punches.**

Bertsch & Co.,  
Cambridge City, Ind.  
Interstate Machinery Co.,  
Chicago, Ill.  
La Salle Machine Works,  
Chicago, Ill.  
Peck, Stow & Wilcox Co.,  
Southington, Conn.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

**Punches—Combination Bench and Hand.**

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Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

**Punches—Hand.**

Hyro Mfg. Co., New York, N. Y.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

**Putty—Stove.**

Connors Paint Mfg. Co., Wm.,  
Troy, N. Y.

**Radiator Cabinets.**

The Hart & Cooley Mfg. Co.,  
New Britain, Conn.  
Tuttle & Bailey Mfg. Co.,  
Chicago, Ill.

**Radiators—Shields.**

Beh & Co., Inc., New York, N. Y.

**Ranges—Combination Gas & Coal.**

Quick Meal Stove Co.,  
St. Louis, Mo.  
Thatcher Co.,  
Newark, N. J.

**Ranges—Gas.**

Quick Meal Stove Co.,  
St. Louis, Mo.

**Register Shields.**

Beh & Co., Inc., New York, N. Y.  
Hall-Neal Furnace Co.,  
Indianapolis, Ind.

**Registers—Warm Air.**

Auer Register Co., Cleveland, Ohio  
Forest City-Walworth Run  
Foundries Co., Cleveland, Ohio  
Hart & Cooley Co.,  
New Britain, Conn.  
Henry Furnace & Fdy. Co.,  
Cleveland, Ohio  
Independent Register & Mfg. Co.,  
Cleveland, Ohio  
Lamneck & Co., W. E.,  
Columbus, Ohio  
Meyer & Bro. Co., F., Peoria, Ill.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City  
Mueller Furnace Co., L. J.,  
Milwaukee, Wis.

Tuttle & Bailey Mfg. Co.,  
Chicago, Ill.

**Registers—Wood.**

American Wood Register Co.,  
Plymouth, Ind.  
Auer Register Co., Cleveland, Ohio  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City  
Mueller Furnace Co., L. J.,  
Milwaukee, Wis.

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H. M. Sheer Co.,  
Chicago, Ill.  
Thermo-Control Regulator Co.,  
Youngstown, Ohio

**Refrig.**

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Lupton's Sons Co., David,  
Philadelphia, Pa.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City

**Rivets—Stove.**

The Kirk-Latty Co.,  
Cleveland, Ohio  
Lamson & Sessions Co.,  
Cleveland, Ohio  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

**Rods—Stove.**

The Kirk-Latty Co.,  
Cleveland, Ohio  
Lamson & Sessions Co.,  
Cleveland, Ohio

**Rolls—Forming.**

Bertsch & Co.,  
Cambridge City, Ind.

**Roofing Cement.**

Connors Paint Mfg. Co., Wm.,  
Troy, N. Y.

**Roof—Flashing.**

Milwaukee Corrugating Co.,  
Milwaukee, Wis.

**Roofing—Iron and Steel.**

Armco Distributors Ass'n of  
America, Middletown, Ohio  
Central Alloy Steel Corp.,  
Massillon, Ohio  
Friedley-Voshardt Co.,  
Chicago, Ill.  
Inland Steel Co.,  
Chicago, Ill.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City  
Osborn Co., The J. M. & L. A.,  
Cleveland, Ohio  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.  
Wheeling Corrugating Co.,  
Wheeling W. Va.

**Roofing—Tin.**

Milwaukee Corrugating Co.,  
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Taylor Co., N. & G.,  
Philadelphia, Pa.  
Wheeling Corrugating Co.,  
Wheeling W. Va.

**Roofing Tools.**

Wm. Elermann, Brooklyn, N. Y.

**Roofing—Zinc.**

New Jersey Zinc Sales Co., The,  
New York, N. Y.

**Rubbish Burners.**

Hart & Cooley Co.,  
New Britain, Conn.  
Schools—Sheet Metal Pattern

**Drafting.**

St. Louis Technical Institute,  
St. Louis, Mo.

**Schools—Warm Air Heating.**

St. Louis Technical Institute,  
St. Louis, Mo.

**Screws—Hardened Metallic Drive.**

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**Screws—Hardened Self-Tapping.**

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**Screens—Perforated Metal.**

Harrington & King Perforating  
Co.,  
Chicago, Ill.

**Shears—Hand and Power.**

Interstate Machinery Co.,  
Chicago, Ill.  
Marshalltown Mfg. Co.,  
Marshalltown, Iowa  
Peck, Stow & Wilcox Co.,  
Southington, Conn.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.  
Unishear Co., Inc.,  
New York, N. Y.  
Viking Shear Co.,  
Erie, Pa.

**Sheet Metal Screws—Hardened.**

Self-Tapping.  
Parker-Kalon Corp.,  
200 Varick St., New York

**Sheets—Black and Galvanized.**

Armco Distributors Ass'n of  
America, Middletown, Ohio  
Central Alloy Steel Corp.,  
Massillon, Ohio  
Inland Steel Co.,  
Chicago, Ill.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City  
Osborn Co., The J. M. & L. A.,  
Cleveland, Ohio  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.  
Taylor Co., N. & G.,  
Philadelphia, Pa.  
Wheeling Corrugating Co.,  
Wheeling, W. Va.

**Sheets—Iron.**

Armco Distributors Ass'n of  
America, Middletown, Ohio  
Central Alloy Steel Corp.,  
Massillon, Ohio  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

**Sheets—Tin.**

Taylor Co., N. & G.,  
Philadelphia, Pa.

**Sheets—Zinc.**

New Jersey Zinc Sales Co., The,  
New York, N. Y.

**Shingles and Tiles—Metal.**

Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City  
Wheeling Corrugating Co.,  
Wheeling W. Va.

**Sifters—Ash.**

Diener Mfg. Co., G. W.,  
Chicago, Ill.

**Sky Lights.**

Lupton's Sons Co., David,  
Philadelphia, Pa.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City

**Snips.**

Peck, Stow & Wilcox Co.,  
Southington, Conn.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

**Solder.**

Chicago Solder Co.,  
Chicago, Ill.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City

**Soldering Furnaces.**

Burgess Soldering Furnace Co.,  
Columbus, Ohio  
Diener Mfg. Co., G. W.,  
Chicago, Ill.  
Quick Meal Stove Co.,  
St. Louis, Mo.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

**Soldering Supplies.**

Chicago Solder Co.,  
Chicago, Ill.

**Specialties—Hardware.**

Diener Mfg. Co., G. W.,  
Chicago, Ill.

**Stars—Hard Iron Cleaning.**

Fanner Mfg. Co., Cleveland, Ohio

**Statuary.**

Friedley-Voshardt Co.,  
Chicago, Ill.  
Gerock Bros. Mfg. Co.,  
St. Louis, Mo.

**Steel Pipe—Welded.**

Chicago Metal Mfg. Co.,  
Chicago, Ill.

**Stove Pipe Reducers.**

Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City

**Stoves—Camp.**

Quick Meal Stove Co.,  
St. Louis, Mo.

**Stoves—Gasoline and Oil.**

Quick Meal Stove Co.,  
St. Louis, Mo.

**Stoves and Ranges.**

Quick Meal Stove Co.,  
St. Louis, Mo.  
Thatcher Co.,  
Newark, N. J.

**Tinplate.**

Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City  
Osborn Co., The J. M. & L. A.,  
Cleveland, Ohio  
Taylor Co., N. & G.,  
Philadelphia, Pa.

**Tools—Roofers.**

Wm. Elermann, Brooklyn, N. Y.

**Tools—Tinsmith's.**

Bertsch & Co.,  
Cambridge City, Ind.  
Dries & Krump Mfg. Co.,  
Chicago, Ill.  
Hyro Mfg. Co., New York, N. Y.  
Interstate Machinery Co.,  
Chicago, Ill.  
Maplewood Machinery Co.,  
Chicago, Ill.  
Osborn Co., The J. M. & L. A.,  
Cleveland, Ohio  
Peck, Stow & Wilcox Co.,  
Southington, Conn.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.  
Viking Shear Co.,  
Erie, Pa.

**Torches.**

Burgess Soldering Furnace Co.,  
Columbus, Ohio  
Diener Mfg. Co., G. W.,  
Chicago, Ill.  
Quick Meal Stove Co.,  
St. Louis, Mo.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

**Trade Extension.**

Copper & Brass Research As-  
sociation, New York, N. Y.  
Sheet Steel Trade Extension  
Committee,  
Pittsburgh, Pa.

**Trimnings—Stove.**

Fanner Mfg. Co., Cleveland, Ohio

**Ventilators.**

Aeolus Dickinson Co., Chicago, Ill.  
Akrot Ventilators, Inc.,  
Chicago, Ill.  
Arax Company,  
Chicago, Ill.  
Berger Bros. Co.,  
Philadelphia, Pa.  
Friedley-Voshardt Co.,  
Chicago, Ill.  
Kernchen Co.,  
Chicago, Ill.  
Lupton's Sons Co., David,  
Philadelphia, Pa.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City  
Standard Ventilator Co.,  
Lewisburg, Pa.

**Ventilators—Ceiling.**

Hart & Cooley Co.,  
New Britain, Conn.  
Henry Furnace & Fdy. Co.,  
Cleveland, Ohio

**Windows—Steel.**

Lupton's Sons Co., David,  
Philadelphia, Pa.

**Zinc.**

New Jersey Zinc Co., The,  
New York, N. Y.

Mention AMERICAN ARTISAN in your reply—Thank you!



## WANTS AND SALES

Yearly subscribers to the AMERICAN ARTISAN may insert advertisements of not more than fifty words in our Want and Sales Columns WITHOUT CHARGE.

Such advertisements, however, must be limited to help or situation wanted, tools or equipment for sale, to exchange or to buy, business for sale or location desired and must reach our office by Thursday of the week of publication. This privilege is not extended to manufacturers or jobbers—or those making a business of buying and selling used machines—employment agencies and brokers.

When sending advertisement state whether your name or blind number is to be used.

## BUSINESS CHANCES

**Lightning Rods**—Dealers who are selling Lightning Protection will make money by writing to us for our latest Factory to Dealer Prices. We employ no salesmen and save you all overhead charges. Our Pure Copper Cable and Fixtures are endorsed by the National Board of Fire Underwriters and hundreds of dealers. Write today for samples and prices. L. K. Diddle Company, Marshfield, Wis.

For sale at a sacrifice, 50 galvanized cans that a customer refused to accept on account of size and not workmanship. The description: No. 24 Ingot Iron Galv. 23 in. high and 7 in. dia. Hold practically 4 gallons. These cans are water tight, tested for leaks and have a cast lug threaded, riveted and soldered on 6 in. from bottom that will take a 1/2 in. faucet by merely screwing in same. This can is reinforced on top edge with 3/4 in. double fold. There are no lids. Will take 50 cents each crated F. O. B. car here. Address Oliver Mullen, Bedford, Indiana. M-493

**FOR SALE**—Good, live, well stocked and equipped sheet metal business. Complete office equipment, extra good truck. All fresh, live moving stock of wide range, including five furnaces on floor just now. Will lump off tools, truck and office furniture and invoice stock. Ill health prevents me from taking care of it properly. Address S-492, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

For Sale—Good paying established furnace parts business, wholesale and retail in a town of a metropolitan center of two million people, no competition, with an established furnace repair and vacuum cleaning business. A good opportunity for two men who know the furnace business. Address J-493, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

**FOR SALE**—In the best town in southwestern Minnesota, tin, plumbing and heating shop, tools and stock. Doing nice business but must quit on account of my health. Address R-492, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

For Sale—Half interest in plumbing and sheet metal shop in Minnesota town of 3,000. Not much money needed. This will bear investigation. Address K-492, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

Want to negotiate for a hardware business in western town five or ten thousand population. Address H. J. Fueller, Glenside, Pa. W-492

## BUSINESS CHANCES

A chance for a young mechanic who wants to get ahead. I have a shop in one of the best locations, large show room and sheet metal shop for sale. There are good prospects next month when the weather opens up. I will sell at a bargain and help him until he gets started. Address O-493, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

For Sale—Sheet metal business with new brick and tile building in good live So. Dakota town of 4,000, located in center of town with two-room modern apt.; municipal heat; full set of tools and the only shop in town. \$5,000 will take it, \$4,500 less tools. Address P-492, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

Wanted to sell at once, first class plumbing, heating and sheet metal shop. Splendid lay out shop and has done a wonderful business in recent years. A rare opportunity for a live wire man who wants to succeed. Address K-493, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

Wanted—Information of a good location for tin and furnace shop in a town of from 2,000 to 8,000 anywhere, or will trade good suburban lot and nice four-room house for shop or small hardware store. Want to locate soon. Address J. M. Erpelding, R. F. D. 3, Decatur, Ill. L-492

For Sale—Furnace and tin shop, best location in the city of Cleveland, also large brick house and large store in front. Wish to retire on account of age and health. Tools all new—year old. Address A. Kovack, 12218 West Madison Ave., Lakewood, Ohio. L-493

**FOR SALE**—Three styles of heater patterns, wood and metal, for oval radiant heaters, very reasonable. Address T-492, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

## SITUATION WANTED

Plumber, sheet metal worker, pattern maker and expert in heating of all kinds wants position. Can manage shop and men. Prefer town of 3,000 and over. Married, strictly sober and twenty years' experience. I will guarantee all my work. Will work on a commission basis also. State wages in first letter. Address O-492, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

Wanted—Steady position with reliable concern by one who knows the furnace and sheet metal business. Can draft patterns and read blue prints. Capable of running shop; 33 years of age, married, sober and reliable. Will accept position as clerk or salesman where this knowledge is essential. Address D-493, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

First class all around sheet metal worker and lay out man wants position at once. Married, sober, steady and reliable. Experienced in all branches of the trade. Have a long and wide range of experience. Been foreman for years. State wages and hours. Will go anywhere. Address W. J. Mack, 121 Third St., St. Charles, Ill. D-494

Sheet metal worker with 16 years' experience on all classes of general sheet metal, and Standard Code furnace work, good at trouble shooting on heating jobs; can lay out patterns and work, estimate, and handle men. Age 37; married and strictly sober. Prefer Illinois, Union shop. Address E-494, AMERICAN ARTISAN.

Live wire furnace salesman well acquainted with all furnace dealers in Illinois will be open for new connection March 1st. Would like to hear from any reliable furnace company. Prefer Illinois but will consider other territory. Address B-493, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

A-1 sheet metal worker and estimator and layout man, middle aged, wants steady job. Experienced in cornice, skylight, heating and ventilating and blow pipe. Please state working conditions. Address A-493, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

## SITUATION WANTED

Situation wanted by all-around man with 23 years' experience in tinning, plumbing, steel ceilings and all kinds of heating, etc. Want position in Wisconsin or northern Illinois. Address C-493, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

Position wanted as tinner and plumber in town with good schools. A-1 on warm air furnace work; sober and steady and have 30 years of experience. Address Z-492, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

A first class ventilating superintendent estimator and mechanic wants position as foreman with a first class firm doing a lot of work. If you are in need of a good man let's talk it over. I am sure I can satisfy you. Address Z-493, AMERICAN ARTISAN.

All around sheet metal worker or salesman wants steady work, can run shop, should make good man for some one. Willing to work and can lay out same; prefer general shop or blow pipe. Understand heating. Address C-494, AMERICAN ARTISAN.

Experienced salesman of good repute and well qualified, would like to connect with an enterprising heating manufacturer. Applicant now holds sales and executive position in same line. Address F-494, AMERICAN ARTISAN.

Wanted—Steady position as sheet metal and furnace man. Also do combination work; will go south and west; distance will be no object. Address Henry Giber-son, 511 Hawley Ave., Syracuse, N. Y. A-494

Sheet metal, plumbing and heating man wants good job. All references. Code installer. Married and can go to work any time. Address M-492, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

Wanted—Position as salesman with stove or furnace manufacturer, for state of N. Y. Age 40, with life experience. Reference on request. Address W. J. B., 319 N. Drive, Buffalo, N. Y. Y-493

Plumber and tinner with 30 years at the trade wants a job. A small town preferred. Address B-494, AMERICAN ARTISAN.

## HELP WANTED

Wanted—A1 man as foreman for progressive shop in central Illinois town of over 12,000. This concern has been in business over 35 years. The man we want must be first-class in laying out and installing everything in the sheet metal and furnace work. Must be able to handle men. Will pay \$50 a week and commission to right man the year around. No lost time. We need this man at once. Give full particulars in strict confidence. Address X-491, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

Wanted—Top notch furnace man who wants to hook up with a top notch furnace company. We vacuum any part of the heating and ventilating system of small residences and the largest of industrial plants. Last year we had 6,000 calls for furnace inspections. This is the opportunity for replacements. If you are a wide awake never tiring hustler looking for real money, send your references as they must show a top notch record. Address W-493, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

Wanted at Once—All around man to do class of work that comes in a country tin shop. Must be able to do plumbing and drive a car. Want a sober man and one who will be on the job. Wages \$30 per week the year around. Address O. L. Doward, Mt. Morris, Ill. G-494

Wanted—Intelligent and willing sheet metal worker. One able to lay out work and capable of handling men. Good future with an engineering company located in Chicago (open shop). Address T-493, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.



## HELP WANTED

Wanted—First-class plumber and tinner, married, and must be sober and reliable and able to take charge of shop, handle men and do estimating. Address H-492, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

Wanted—First class furnace and sheet metal worker that can read blue prints and lay out jobs. State wages. Located in northern Illinois. Address S-493, AMERICAN ARTISAN, 620 So. Michigan Ave., Chicago, Ill.

Wanted—Good reliable plumbing, heating and sheet metal man. For information write Leo E. Beall, 107 Nottana St., Sturgis, Mich. X-493

## TINNERS' TOOLS

For Sale—No. 502 Pexto grooving machine, \$15; No. 556 Pexto setting down machine, \$10; 2x31 Pexto forming rolls, \$10. All in good working order. Address G. W. Melsenholder, Parkston, S. D. J-492

For Sale—One No. 40 Biever threading machine, one year old and in perfect condition. Address Huettman & Federspiel Hardware Co. Store, Port Washington, Wis. Y-492

For Sale—One used Merrell power pipe machine with or without motor. Cuts ½ in. to 6 in. pipe. For further information write Leo E. Beall, 107 N. Nottawa St., Sturgis, Mich. R-493

Wanted to Buy—Used 8 foot steel brake and stove pipe crimper. Address P-493, AMERICAN ARTISAN, 620 So. Michigan Ave., Chicago, Ill.

For Sale—Full set of tinner's tools and auto radiator outfit. Address Charles Miller, 522 N. Niel St., Champaign, Ill. X-492

## 95% NEW

### Latest Model MIGHTY MIDGET UNISHEARS

**\$65.00 ea.**

**Largest Stock New  
and Used Sheet Metal  
Working Machinery  
in Middle West.**

**Interstate Machinery Company**

601 W. Monroe St. Chicago, Ill.

**SEND FOR STOCK LIST**



**AREX**

**Original  
Siphonage  
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**The  
Power  
Fans  
Only Rival!**

**200,000 Perfect  
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CHICAGO

## SPECIAL NOTICES

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your name or blind number is to be  
used—also how many insertions are  
desired.**

## PATENTS

**HUBERT E. PECK  
Patent Attorney**

**Barrister Bldg., WASHINGTON, D. C.**

## WANTED

By Jobber of Furnaces, Fittings and Registers for middle west territory, salesman who knows the game, must be familiar with the code and fan practice, able to assist the trade to figure and close sales. Give age, record of sales, by whom employed and where. How much of a family. Must be willing to move to the territory. About one-half time on the road. Address E-493, American Artisan, 620 South Michigan Avenue, Chicago, Illinois.

## SALESMAN

To sell High Grade cast furnaces in Indiana and western Ohio on straight commission basis. Bridge & Beach Mfg. Co., 4204 N. Union Ave., St. Louis, Mo. G-493

## WANTED

Good live "Up and Going" Boiler and Furnace salesman, acquainted with Chicago Trade. Apply International Heater Company, 1933 Wentworth Ave., Chicago, Ill. H-493

## AMERICAN ARTISAN ADS BRING RESULTS



**ELIMINATE SMOKE, GAS,  
oil fumes, etc. Paint your  
furnace joints with INSA-  
LUTE CEMENT (liquid  
porcelain). Order an 8-lb.  
can at \$2.00 direct or thru  
your jobber. Used on all  
kinds of domestic furnaces.**

**TECHNICAL PRODUCTS CO.**  
116 S. Sheridan Ave Pittsburgh, Pa.

# AKRAT



**The  
Better**

**Siphonage  
Ventilator**

**SPECIFIED by Architects and Used by  
More Contractors Because of Its IN-  
CREASED PULLING POWER. Give Your  
Customers Extra Efficiency by using AKRAT  
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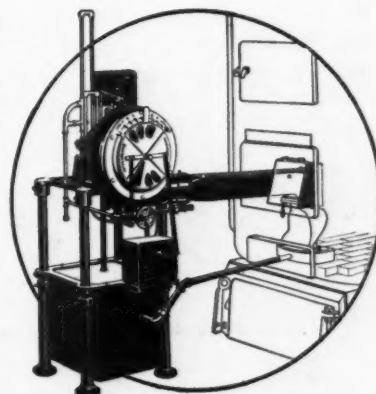
**1000 brand new steel furnaces, sizes 22, 24 and 27 at  
very advantageous prices. These furnaces were made  
for a large buyer and later it was found necessary to  
cancel order. Your own name can be placed on them.  
For quotations write.**

**F-493, AMERICAN ARTISAN, 620 So. Michigan Avenue, Chicago, Ill.**

# The McIlvaine sales franchise will increase your profits—because the McIlvaine Oil Burner with its **Continuous Flame Mechanical Draft**

## Is scientifically correct for warm air Furnace Installations

Warm air furnace Dealers who have taken on the McIlvaine Sales Franchise are making profits they had been overlooking. The success of W. J. Vierck & Son, Rockford, Illinois, is an example of what can be accomplished with the McILVAINE for warm air furnace installations. Mr. Vierck knows that every one of his warm air furnace jobs is a possible prospect for the McIlvaine Oil Burner with its continuous flame, mechanical draft and graduated control. These three features, found in no other burner, give the McILVAINE many advantages over the gravity and intermittent types. "Equally good for hot water and steam plants."



**No cracking of furnace  
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**No opening of furnace joints.**

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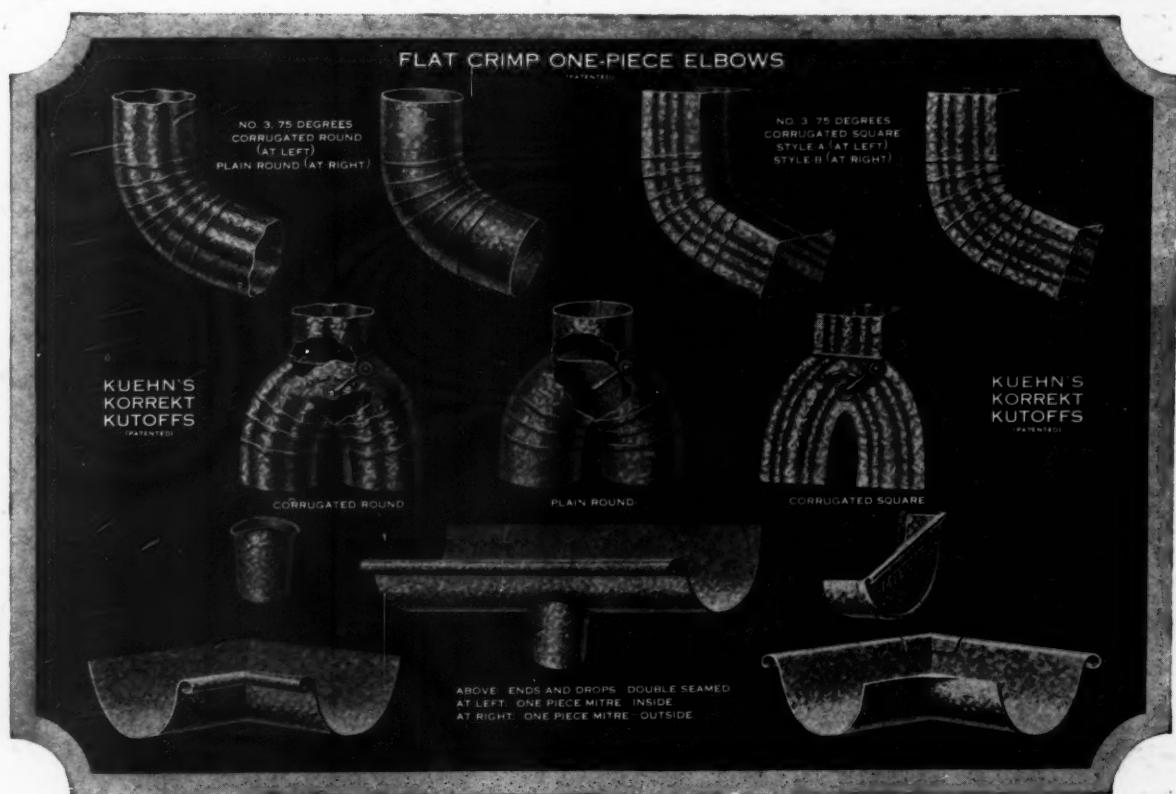
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## Super Quality: A Business Builder

**B**UILDING OWNERS, practically everywhere, have been educated to specify certain metals for their Eaves Trough, Conductor Pipe, Elbows, Mitres and Trimmings as well as for Roofing. Certain qualities in different metals are given Trade names not only to protect the Trade, but to help sell definite qualities. And the public is sold on buying definite, dependable quality.

These quality metals are used in Milcor products with exacting methods of manufacture, resulting in a *Super Quality* that is appreciated by both the Sheet Metal Trade and by the general public. It satisfies the owner demand for known quality and this satisfaction instead of encouraging "shopping" helps you build your business.

Because of this demand for known quality in Sheet Metal products, Milcor Rain Carrying Equipment is made of Milcor Sheet Steel, "Coppered Metal", Rust-Resisting ARMCO Ingot Iron and Anaconda Pure Copper.



### MILCOR



### Rain Carrying Equipment

[ Everlasting Copper or Pure Rust-Resisting ARMCO Ingot Iron in Milcor Rain Carrying Equipment are the signs of Super Quality jobs. ]

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Atlanta, Ga.

Little Rock, Ark.

Minneapolis, Minn.

Eastern Plant: The Eller Manufacturing Co., Canton, Ohio



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